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OFFICIAL ORGAN OF THE NORTHWEST FRUIT GROWERS ASSOCIATION

VOLUME TWO

NUMBER TEN

ONE DOLLAR A YEAR

# BETTER FRUIT

*April 1908*



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PUBLISHED BY BETTER FRUIT PUBLISHING COMPANY HOOD RIVER, OREGON

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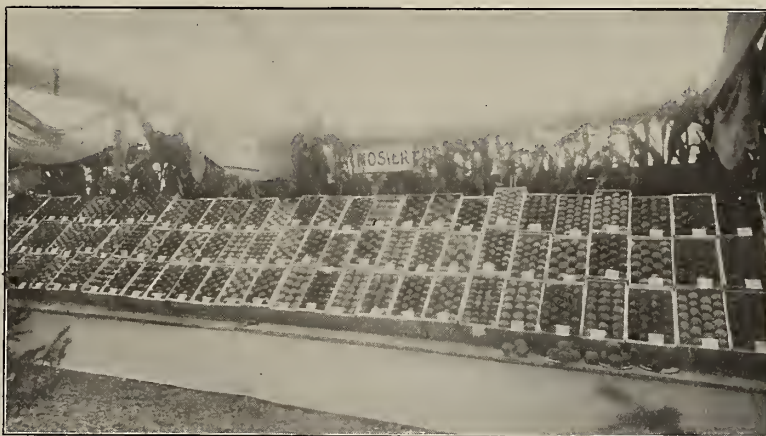
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# BETTER FRUIT

A MONTHLY ILLUSTRATED MAGAZINE PUBLISHED IN THE INTEREST  
OF UP-TO-DATE AND PROGRESSIVE FRUIT GROWING AND MARKETING

## STARTING AND MANAGING AN OREGON VINEYARD

BY A. H. CARSON, HORTICULTURAL COMMISSIONER, GRANTS PASS, OREGON

**T**HERE are a number of persons living in the Rogue River Valley who at this time recognize the fact that climatic conditions together with soil make the Rogue River Valley an ideal place to grow the grape.

Whatever knowledge I may have was gained through more than twenty years of practical experience in grape growing. I hope I may be able in this paper to point out details in the starting, growing and management of a vineyard that will aid the beginners so that they may avoid the errors and mistakes of which I have made so many.

The location of the vineyard is an important factor to assure success. The soil must be warm, of good depth and well drained. Cold, wet land is not congenial to the growth of the grape. Our foothill lands, if the loam has depth not less than two feet, sloping to the south-east, south and southwest, with an elevation from twelve hundred to twenty-five hundred feet, are ideal locations for a vineyard, providing there is not too much broken rock in the soil to prevent thorough plowing and subsequent cultivation. To mature the grape it must be grown in an equable temperature with ample sunshine, and our southeast, south and southwest hillsides are locations that come nearer furnishing these conditions than would a northern slope or a level flat.

Do not plant the grape on a northern slope in this climate, as the variation in temperature during every twenty-four hours is much greater than on a southern slope, and, too, a southern slope will give on an average one hour more sunshine in twenty-four than on a northern slope. By planting your vineyard on a southern slope you avoid the blighting effect of the north wind on the bloom.

The quantity and quality of grapes grown on a northern exposure never equal those grown on a southern exposure. Assuming that the intended vineyard is grubbed and all stumps removed, thorough plowing of the ground to a depth

letting it fall back into the furrow made by the turning plow.

Plowing and breaking up the subsoil to this depth insures good drainage to carry off surplus water in case of heavy rainfall, warms up the soil, pulverizes it, and enables the soil to stand drouth. With proper cultivation that means much in growth of the new vineyard you seek to establish the first year.

Many old vineyards are planted too closely, too many vines to the acre; 6x8 and 8x8 feet is not distant enough. Any and all of the European varieties should not be planted nearer than 9x9 feet, 535 vines to the acre, and 10x10 feet would be better.

To get the best results the vine must have room to grow, with ample soil from which to draw its food, and you must have room to till and cultivate to make this plant food available to the young or old growing vine.

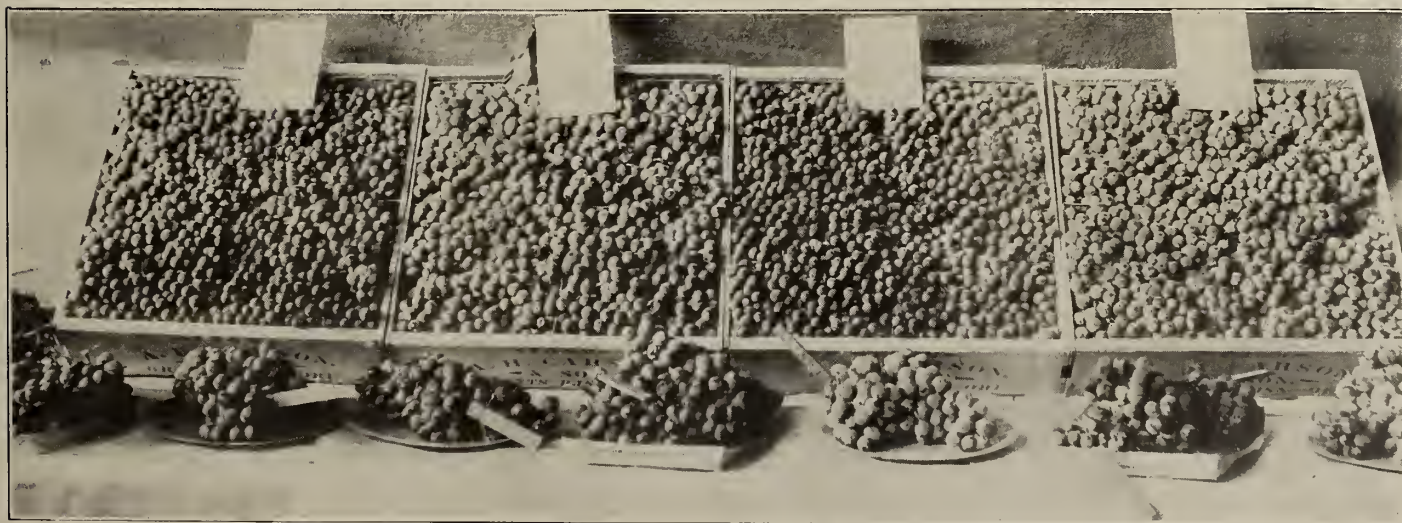
Preparatory to planting the young vines use a line about 300 feet long and lay out the end and side lines of the vineyard, so that one end and one side forms a true right angle. Without a compass you can use a carpenter's square to lay off a right angle. Peg these side and end lines the distance apart you wish your vines to stand in the vineyard. Use pegs half an inch in diameter, and in making your measurements from peg to peg use a pole the desired length between vines, always pegging carefully the distance your pole indicates. By using the line on each row and setting the pegs carefully with a well stretched line you can lay off any number of acres on level or rolling ground and the pegs will be in line in all directions. In planting the young vines do not remove the peg, but plant them on the south side of each peg, so

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of fourteen to sixteen inches should be had, with the surface well harrowed and pulverized.

To get this depth we use the turning plow and turn over the surface to a depth of eight inches and with a second team follow up each furrow as turned with a subsoil plow, breaking up the subsoil seven to eight inches deeper,



PRIZE GRAPES GROWN BY A. H. CARSON, GRANTS PASS, OREGON. PACKED IN FIVE-POUND BASKETS, FOUR BASKETS TO THE BOX



that the top bud of the vine will be about one inch from the peg.

I would always use one-year-old rooted vines to plant a new vineyard. Unrooted cuttings are too much risk, as many of them fail to root in the vineyard, and if you use them you will always have many vacant places in the vineyard, which you will have to replant the following year. Root your cuttings in warm, sandy loam in nursery.

A strong rooted vine of one year's growth will put out canes from one to two feet in length. Cut back all of this growth to two or three buds. Shear off all lateral rootlets on the rooted cutting close to the cutting, and of the rootlets at the lower part of the rooted vine—shorten them in to two or three inches. This prepares the young vine to be planted in its new home. You can plant this young rooted vine any time in this climate from November 15 to May 1, providing you have the soil in condition and the weather is not freezing. What I mean by soil in condition is when it will work free and is not too wet.

Last year I planted in vineyard 4000 one-year rooted vines during April, and my loss was only a half of one per cent. The most of this small loss was caused by rabbits and cut worms eating off the tender growth during the summer as fast as it grew.

After planting out, all you have to do this year is to cultivate and keep on cultivating whether there are weeds or not until August 15. Stir the surface soil once a week with harrow or spring tooth to conserve moisture. Your success in growing a vineyard will be in your willingness to pay the price—work. If you do not possess that capital—a willingness to work and bestow the necessary labor—don't plant a vineyard, as your success or your non-success will reflect your personality.

The first year let every bud that quickens and grows alone. Do not remove a leaf. It is one of the organs

of the plant in conjunction with the roots that is necessary to establish the vine in the new home you have placed it in.

The first year the growth of the vine will be small and the beginner may at the end of the growing period be discouraged and fear that his soil and location are not adapted to the growth of the grape. Time will prove his fears are without reason. In February or March of the second year go over your young vineyard and

be tied firmly near the top of the stake in a notch cut into the stake, so that the swaying of the young cane by the wind will not work the top string down the stake, thereby pulling down the tender growth, which hardens in time and leaves you with a crooked, deformed stump that pruning cannot remedy. Your only remedy in such cases is to cut back all the growth the spring following and start a new cane to form a new stump.

There will be weak vines the second year which will not make strong enough



A GLIMPSE OF A. H. CARSON IN HIS VINEYARD NEAR GRANTS PASS, OREGON

cut back all growth of the first year, leaving only two or three buds. If two or more canes have grown, take off the weaker ones and leave the stronger one, but be sure to cut it back to two or three buds. Cultivate the vineyard as I suggested for the first year. By the middle of June you will find that many of your vines have grown canes four feet long or more, with strong, vigorous canes.

Pluck or cut off the weaker canes; drive a sharpened stake on the north side of the strong cane left and tie to it.

After being driven the stake should be two feet high. It should be driven down firmly. Tying the cane to the stake is particular work, as this cane forms the future stump to support the grapes you hope to grow.

Two strong strings are required to tie a growing cane to the stake. The loop left around the growing cane must be left large enough so that the growing cane will not fill it so as to cut off and strangle it. The top string must

growth to stake. Let them alone, and the third year cut them back to two or three buds and they will soon show a vigorous growth that will do to tie to a stake. Vineyards grown on the stump, as nearly all European varieties are grown, require staking for seven or eight years, until the stump is strong enough to bear its burden of luscious grapes. By using cedar stakes at the beginning you will avoid the necessity of restaking many vines.

Do not expect many grapes from your young vineyard until it is five years old. You will get a few grapes the third year. Commercially speaking, your profit will not begin until the vineyard is five and six years old. When they have attained that age they will pay you six per cent on a valuation so large that I am too modest to tell you what that valuation is.

There are many choice varieties among the European grapes. The Muscat, Malaga and Flame Tokay are in my opinion the three best. Only the best should be grown for home use or the market. All three are firm, late grapes, good keepers, great bearers, and quality superb, and if properly ripened, picked and packed will stand shipping across the continent and will sell in the Eastern markets at top prices.

There are many other table grapes, such as the Black Prince, Cornichon, Black Hamburg, Black Ferrera, Gros Maroc and Purple Damascus, that are fine.

I often hear the remark: "I believe I would like grape growing, as grapes, like Topsy, just grow—you don't have to



FRUIT EXHIBIT AT THE DALLES, OREGON, FAIR, SHOWING ITS GRAPE PRODUCTS SUSPENDED IN THE FOREGROUND



spray them." This is a mistake. I say to you that if you become a commercial grape grower you will have no graft. If you have success you will have to bestow the labor and care that men in apple, pear and peach growing bestow to assure success. The grape has its fungi and its insect pests, and you will have to intelligently meet and overcome these diseases and pests or you will fail.

Of insect pests we have the grape vine aphid. This pest so far has not proved serious.

the birds, destroy many of them, and owing to its large size you can readily detect him and when found knock him off the vine and with the hoe end him. The climbing cut worm is a serious pest on one and two-year-old vines. They are nocturnal in their habits, feeding at night, and were it not for our robins and bluebirds, who detect them and destroy them in countless numbers, they would destroy any and all growing vegetation in our fields in early spring and summer

grapes, and has existed in California since the first planting of the grape by the Mission Fathers. It does not affect the fruit in quality or size.

My oldest vineyard of 7000 vines, which has been in bearing for over twenty years, has been affected with the grape knot from the beginning, and I have not lost ten grape vines from grape knot during that period.

Mildew you will find the most annoying fungus the grape grower has to contend with. It affects the growing canes, leaves and fruit, and if it develops in any portion of the vineyard during the season you will lose all the fruit on every vine it attacks. However, mildew is easily controlled. If you lose a crop of grapes from the mildew the fault is your own, as the remedy costs you but little.

If mildew once becomes established in the vineyard during the season all vines so affected are past help for that season. Spraying the vines with Bordeaux, or flour of sulphur shaken in each vine, will prevent mildew from developing. If flour of sulphur is shaken in each vine when in bloom and again when the grapes are the size of BB shot it will prevent mildew, or if you will spray the vines with standard Bordeaux just as the buds begin swelling in the spring and again with modified Bordeaux when the grapes become of the size of BB shot you will prevent mildew. These remedies are cheap and effective, and if you become a grape grower you run much risk if you fail to treat your vines annually.

The question of winter and summer pruning is hard to explain in a paper of this character so as to make it of practical value to a beginner. The beginner's best method to learn pruning is to go into a vineyard with a pruner of knowledge and have an object lesson. No two vines of the same variety are pruned exactly alike, as they all vary in vigor and must be pruned accordingly to get the best results. If my Jackson and Josephine County friends who are beginners in grape growing will come to my vineyard in February and March I will be glad to give them object lessons in pruning the grape, so far as my knowledge goes on that subject.

Again, picking and packing the grape for market, as well as selling it, are



ONE DAY'S PICK OF GRAPES AT THE PACKING HOUSE OF J. H. REID, MILWAUKIE, OREGON. THE SHIPMENT CONSISTED OF 570 FIVE-POUND BASKETS

Then we have the green grape vine sphinx. The larvae of this insect some years are very plenty, and if permitted would do serious damage to the growing vine. In this climate the female moth deposits from one to three eggs on the under side of the leaf, about June 1. The egg is about one-twentieth of an inch in diameter, whitish in color and oval in form. In five or six days the egg hatches, and the young larva soon begins on the young, tender foliage. His growth is rapid, and in a short time he becomes a python among leaf-eating worms. I have seen the grown larva that measured two and three-quarter inches in length and as large around as the little finger. Two or three of these grown worms will, if not discovered, soon strip every leaf from an old vine. Its natural enemies,

months. Thanks to Governor Chamberlain's wisdom, when he interposed his veto to the Perkins bill, as to what extent the law can protect the fruit growers' friends, yet remains law.

The most dreaded insect pest is the grape phylloxera. It has not yet made its appearance in any of the vineyards of Oregon, but is in portions of the grape-growing districts of California. When it does appear here, if it does, our only remedy is to graft the finer European grapes on resistant roots. Of fungus diseases we have grape anthracnose, mildew, grape rot, rust and grape knot.

All of these fungous diseases readily yield to spraying with Bordeaux in the spring, just the buds begin swelling, excepting the grape knot. This disease affects the old wood of all European



ORCHARDS SET OUT IN APRIL, 1907, AND IRRIGATED FROM THE MAINS OF THE LEWISTON, IDAHO, SWEETSER IRRIGATION COMPANY. THE COMPANY REQUIRES THAT ALL TRACTS PURCHASED FROM IT BE UNIFORMLY FENCED



phases of the grape grower's work that would make this paper too lengthy to go into at this time. I hope to take this subject up at some future time.

The timid often say to me, "There are a good many people going to engage in grape growing. Won't production soon be greater than demand?" My answer has always been no. It must be remembered that the possibility to grow and mature such grapes as the Tokay, Mus-

tion of Arizona and New Mexico can grow them by resorting to irrigation. Irrigated grapes do not have the shipping qualities that non-irrigated grapes have. They soon decay, hence will not be a serious rival to our non-irrigated grapes of the Rogue River Valley in Eastern markets.

For the past seven years I have been shipping one to two thousand crates of these grapes to the Portland market.

With increased shipments prices have advanced annually. My first year's shipment of Tokays sold for \$1.10 per crate; California Tokays that year sold for \$1.15 per crate. Oregon Tokays had to win their way against California Tokays. At that time—seven years ago—Portland fruit dealers would not acknowledge that Oregon Tokays had any merit in comparison with California Tokays. The Oregon Tokay has won out and are now regularly quoted as Oregon Tokays in the market reports of Portland. Last year every crate of Tokays I shipped to Portland sold for

\$1.50 to \$1.65 per crate, while California Tokays on the same dates sold for \$1.35 to \$1.50 per crate.

You will ask, why do Oregon Tokays sell higher in Portland markets than California Tokays? The question is best answered by my observations and talk with a retail fruit dealer on Morrison street in Portland last October. Passing down Morrison street, I noticed Tokays of my own growing, together with California Tokays, and I stopped to look at them. The Oregon Tokays were labeled Oregon Tokays, 15 cents per pound, and the California Tokays, 10 cents per pound. I asked the dealer why there was such a difference in the price of Oregon Tokays and California Tokays. "Why," he said, "you see the Oregon Tokays are highly colored. They look as fresh as if just picked from the vine. They will retain their fresh look for the next ten days and not one of them will decay, while the California Tokays are pale in color and are soft and beginning to decay. I have got to get them off my hands at once or else lose the purchase price. Yes, sir, we did not used to think so, but now we know Oregon can raise a better Tokay than California."

I asked Mr. Pearson, senior member of the Pearson-Page Company, of Portland, last fall, how many crates of Tokays they could handle for me during a season of two months in the Portland market and keep prices up. His reply was, "We can handle two carloads a week, and will have no trouble to get you top prices." These are the conditions and demands of our local markets.

I have taken some pains in this paper to point out to you that the market demands will be for our choice table grapes if we will grow them, and to allay the fears of the timid who may desire to plant the grape, yet hesitate on account of the specter of overproduction, which is ever coming up in their minds to

scare them and strangle any personal endeavor they may think of engaging in. Jackson and Josephine Counties have thousands of acres of choice hillside lands that today are as primitive as they were in the days of the first settlement of Oregon by the white race, that are adapted to growing the grape. As they are, they are non-productive. They are cheap and can be made into homes by planting the grape that will care for



ROME BEAUTY APPLES AND GRAPES GROWN IN THE LEWISTON-CLARKSTON VALLEY

cat and grapes of their variety is limited to a very small portion of the United States. In Oregon these varieties can only be grown in the Rogue River Valley and about The Dalles in Wasco County. The Willamette Valley cannot mature them. A limited portion of Idaho along the Snake River can grow them, and the State of California, a por-



IDAHO PEAR TREE, VINELAND; THREE YEARS' GROWTH

many families and will be a source of wealth to the owner, as well as the state.

If this paper induces any one to take up grape growing and improve these lands with success, which I know will follow, if the hints and suggestions I have given are remembered, I shall feel amply repaid for the time spent in its preparation.



YELLOW EGG PLUMS GROWN IN VINELAND, IDAHO



CHERRIES GROWN NEAR LEWISTON, IDAHO



# VITICULTURE IN THE VALLEY OF THE WILLAMETTE

BY WALTER HOGE IN THE PORTLAND OREGONIAN

THE pioneers of Western Oregon found here few of the wild fruits so common along the eastern border of the continent and that extend even to the great central dividing line of the Rocky Mountains. Especially did they miss the purple clustered vine whose rich



SOME YAKIMA VALLEY, WASHINGTON, GRAPES

and fragrant fruit was eagerly sought through autumn woods by bird and beast and man. But if they found it not wild, they soon began the introduction of cultivated varieties, and were not long in discovering that these would flourish here with rare luxuriance. Some varieties were found better adapted than others to the climatic conditions prevail-

ing here; some locations, owing to soil or slope of land, seemed more suitable than others to the vine, and out of years of intelligent experiment, tireless labor and loving cultivation has grown one of the important horticultural interests of the state. How important it has become is shown by the reports to the State Horticultural Board which place the crop of 1907 at 3,945,000 pounds, valued at \$124,500.

Vine growing is not confined to any particular part of the state. It is the man behind the business, rather than the location, that insures success in this industry, as is abundantly demonstrated by the flourishing vineyards at Jacksonville, Grants Pass, Forest Grove, Milwaukie and The Dalles, as well as at scores of other widely scattered places throughout the state. Conditions at the various vineyards are largely the same, the variations resulting more from the markets to be served and the varieties of grapes best suited to them, than from any other cause. For that reason the vineyards of Forest Grove may be taken as typical of all others throughout the state, and of them I write especially.

For more than twenty years grape growing for market has been in progress near Forest Grove, and experience has taught growers many practical lessons. One of these is that hill lands are better for grapes than valley lands, not because the soil is richer, but because it is better adapted to the vine. Then it is found that a southern slope is better than any other. The spring sun warms it early and autumn rays linger there long and lovingly, ripening and mellowing the juices of the fruit, giving a sweetness and delicacy of flavor unequaled in fruits grown in less favored locations. For that reason, David's Hill, a southwestern extension of the Coast Range that juts out into the valley just north of Forest Grove, has long been a favorite site for grape growers, and year by year new vineyards are added, until now it is probable that no other equal area in the state is so largely devoted to culture of the vine. The hill rises with irregular sur-

face to a height of about 1000 feet above the valley, and it is found that the upper reaches of these slopes produce the best grapes. It is noticed that often clouds and fog are thick over the valley while these uplands will be radiant with spring or autumn sun, and early and later frosts



LOOKING OVER VINELAND AND CLARKSTON ORCHARDS FROM CLARKSTON HEIGHTS, IDAHO

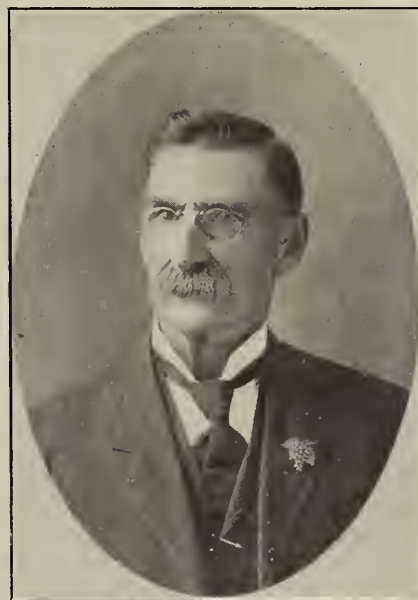
are much less liable to damage bloom or ripened fruit than at the lower levels.

The pioneer of the business on this hill was F. W. David, who began to plant the vine there commercially about thirty years ago, but he has had many followers and now much of the two-mile stretch of southern slope is dotted with vineyards. Other fruits are not neglected and flourish there, but the grape is the distinctive crop. A. Reuter, who has been in the business for twenty-one years, J. A. Peterson, nineteen years, and A. Anderson, F. Blied, R. Holischer, William Koppel and others for less times, now have large and profitable vineyards.

A vineyard once brought into bearing goes on for many years with seldom a



GRAPES ON THE VINE IN MR. CARSON'S VINEYARD



A. H. CARSON

A successful grape grower and leading Oregon horticulturist of Grants Pass, Oregon



failure of crop. The amount of yield varies somewhat with the different varieties of grapes, some being heavier bearers than others, but growers on David's Hill estimate their crop at from five to six tons per acre on the average. There is always a hungry market for them at Portland, Seattle, Tacoma, Spokane and other Western trade centers, at prices generally quite remunerative, the net returns for the last crop being estimated at two and one-half to three cents per pound. Oregon

climatic conditions. In Europe they have found the best way to fight phylloxera is to flood the vineyard for a time while the vines are dormant. In Oregon the winter rains seem to furnish the needed flooding to drown the insects which prey upon the roots, thus protecting the vine from them.

Most of the varieties of the vine grown elsewhere in this country and Europe have been tested in Oregon, and the kinds best suited for cultivation here have been ascertained. Probably the

it a very high grade. At the Chicago Exposition an exhibit of grapes from David's Hill was brought into competition with fruit from California, Lake Erie and elsewhere, and received the highest award. At Buffalo wines from the same place received the gold medal for highest excellence. In all markets they rank high as a table grape for their delicate flavor. They are more tender and juicy than the California grapes and are almost universally



DAM OF THE PROSSER FALLS LAND AND POWER COMPANY ACROSS THE YAKIMA (WASHINGTON) RIVER, WHICH FURNISHES IRRIGATION FOR A LARGE SECTION, IRRIGATING GRAPES AND OTHER FRUITS

vines are remarkably free from all diseases and pests, especially those that have wrought such havoc among the vineyards of Europe and California. County Fruit Inspector Harris, who has seen much of the ravages of the dreaded phylloxera in other places, says he has found none of it here, and he attributes our freedom from it in large part to

Concord leads all others for general purposes, but the Niagara, Moore's Early, Worden, Delaware, Red Mountain, Sweetwater and Black Hamburg are all popular and largely planted. The last two are especially chosen as wine grapes, though very few are grown for that purpose about here. One vineyardist who has given considerable attention

preferred when brought into competition with the product of the Southern vineyards.

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**N**EWPORT, Washington, will have a 640-acre fruit farm five miles from it as soon as it can be cleared and planted. The section will be irrigated from Marshall Lake near there.



PRODUCING A CROP OF MELONS AT VINELAND, IDAHO, WHILE THE ORCHARD IS GROWING

to that industry made one hundred and ten barrels of wine this fall from six acres of grapes, mostly Sweetwaters. He finds that it takes about six hundred pounds of grapes to make a barrel of wine.

Now as to the quality of this fruit that Oregon can produce in such abundance. Connoisseurs give



LEWISTON GRAPES READY FOR THE TABLE



# GROWING OF THE GRAPE IN THE INLAND EMPIRE

BY R. SCHLEICHER, OF LEWISTON, IDAHO, A SUCCESSFUL GROWER

**T**HAT grape growing in the valleys of the Columbia and its tributaries has not received the attention it deserves, considering its great possibilities, is beginning to be generally recognized, and in numerous localities fruit growers are beginning to consider it the most promising branch of horticulture. There are now thousands of acres, and

pany and the Lewiston Sweetwater Irrigation Company we find tables taken from the reports of the chief signal officer at Washington, comparing temperature, precipitation, relative humidity, hours of sunshine, etc., at Lewiston, Idaho, with the best grape-growing centers of California, and in every instance the comparison shows the former point

by exposure, air drainage and other local conditions.

It is not necessary, however, to prove the adaptability of this climate to viticulture by showing compliance with theoretical requirements, as grapes have been grown successfully at The Dalles, Oregon, Walla Walla, Washington, and Lewiston, Idaho, and at intermediate



A UNIQUE WAY OF IRRIGATING IN THE LEWISTON, IDAHO, FRUIT COUNTRY

Showing method by which water is distributed to five-acre tracts in Lewiston orchards under the system of the Lewiston Sweetser Irrigation Company. Delivered under fire pressure the water is available both for irrigation and domestic uses

upon the completion of the different irrigation projects under construction in the Inland Empire there will be tens of thousands of acres of land which for the production of the tender varieties of grapes (*vinis vinifera*) have no superior either in California or Europe.

The cultivation of the grape, being of greater commercial importance in those parts of the world where it can be successfully grown than that of all other fruits combined, has been the subject of careful study and research for several hundred years, and scientists have determined every meteorological condition necessary to its best development. In a pamphlet on grape culture published by the Lewiston-Clarkston Com-

to possess in a greater degree the very conditions required for successful grape growing.

These observations taken at Lewiston, six hundred and eighty feet above sea level, on the Snake River, will probably fairly represent the average climatic conditions of points in the Columbia River Basin east of the Cascades, the altitude of which is from four hundred to fifteen hundred feet, with such difference in earliness of ripening, freedom from and liability to frosts, etc., as may be caused

points for nearly forty years, and at many other points for several seasons past. Nor have the plantings of late been confined to the varieties that thrive in the colder parts of Central Europe, but we have excelled with the varieties originated in Spain, Italy, Northern Africa and Asia, varieties the growing of which on the American continent was considered possible in California only.

As grapes grown at Lewiston shared honors with and were awarded as high prizes as those from California at the expositions of Omaha, Buffalo and St. Louis, and a display made by a grower at the Portland Fair in 1905 in competition with California brought forth a letter from Professor H. E. Van Deman, ex-pomologist of the Department of Agriculture and president of the horticultural jury at the Lewis and Clark Exposition, who wrote: "No doubt you have received the notice of what I awarded you, and I wish you could have had more than one gold medal, for you deserved it. You made the best grape display at the exposition. I was much pleased with the crispness and good flavor of some of the grapes you sent," etc., etc.

Colonel Brackett, pomologist of the Department of Agriculture, who some years ago traveled three hundred miles out of his way to assure himself that grapes which were exhibited as Idaho grapes were really grown in the Lewiston Valley, stated that after an exhaustive inspection of California vineyards a few weeks previous to his visit, he had seen nothing there to excel, and little to equal, what he saw here.

Mr. H. S. Emerson, a wholesale fruit and produce dealer in Seattle, who has been handling California grapes for years, reporting upon a shipment of grapes received from here last October,



HOMES IN THE RESIDENCE SECTION OF LEWISTON, IDAHO



says: "You have California decidedly beaten for quality," etc., etc.

With all this evidence as to the quality of the grape product in the Inland Empire, and the enormous yield, being from four to six tons of choice table grapes per acre year after year, the absolute freedom from insect pests so far, the ever expanding markets and the fast increasing shipping facilities, there should be no hesitancy on the part of owners of land to plant vineyards on a large scale.

These plantings should be of those varieties which, besides being large and

section than any other variety. The supply has never been enough to supply even the home demand.

There are many other varieties which deserve of more extensive planting. Notable among these is the Hunisa, a variety the cuttings of which were sent to the Department of Agriculture by a missionary in Syria in 1902, where it is reputed to be the best keeper of any grape known, being usually kept in good condition until March at its native home. This reputation is likely to be sustained in this climate, judging from a few years' observation. It is the opinion of

were produced near the northern limit of possible grape culture and mostly on the slopes overlooking large rivers. These conditions are met in an ideal way in the Lewiston-Clarkston Valley.

Wines produced here were given high awards at Buffalo, St. Louis and Portland Expositions, and no less an authority than the late Professor George Hussman, of Napa, California, for forty years the leading writer in the United States on grape growing and wine making, and father of George C. Hussman, the present pomologist in charge of viticultural investigations of the United States



POTATOES BETWEEN THE TREES AT EAST GREENACRES, SPOKANE VALLEY, WASHINGTON

showy, have good keeping qualities and are hard enough of texture to stand shipment to distant points, and which experience has shown to succeed well, and for which there is a demand in the Eastern as well as the home markets. The principal ones are the Tokay, Malaga, Muscat, Cornichon and Emperor. These are all well known varieties, good shippers, and are called for by the consumer. Another variety, a late importation from Eastern Europe, the Rammonia of Transylvania, has proven itself a great success. It is a dark blue grape of immense size, not quite as good a shipper as the Tokay or Malaga, but outsells all others wherever marketed. This variety, owing to its attractive appearance, has called more attention to the grape growing possibilities of this

the writer that after this variety becomes known it will be planted very extensively and will take the place of the grapes that are shipped from Spain in cork dust for winter consumption. It is higher in quality and a better keeper, and both the Department of Agriculture and the University of California, which have had samples submitted to them, express great hopes for its future. Vines of this variety will not be placed on sale until its value is absolutely established.

The experiments in winemaking, conducted here for some years, have resulted in notable success; the dry wines of the Sauterne and Rheinish types having been pronounced by connoisseurs as coming nearer to the European wines than any grown in California. It has been known for hundreds of years that the best wines

Department of Agriculture, writes under date of May 15, 1902, concerning a bottle of Idaho Sauterne sent him for his opinion: "I called in the best judge of wines we have here. We tasted it together and pronounced it a very good wine, equal to the best wines made in this county (Napa), which we claim makes the best dry wines in the state. It is a good sound wine which ought to sell anywhere among wine drinkers of the right sort; wine which makes glad the heart. At my age (seventy-four) it is highly gratifying to me to find that my efforts since 1850 in the cause of grape culture and the making of pure wine have not been in vain."

As these wines were made from grapes which have more of a reputation for table use than for wine making, and as



none of the makers had any previous experience in wine making in other countries, and as the encouraging results so far are due entirely to soil and climate, there is justification for the belief that when wines are made here within the last two years, from grapes used in making the celebrated growths of France and Germany, get age enough to develop their highest quality, there is a possibility of results that might realize the most sanguine hopes.

From an economical standpoint the business of growing table grapes and that of wine making go hand in hand,

great investment to equip a plant capable of turning out several thousand cases of grape juice each season.

The development of viticulture in the Inland Empire has, up to the present time, been entirely in the hands of individual growers, and as flattering as results are today they are small to what might be expected if experiments were carried on by men equipped with scientific knowledge, and who would have facilities and leisure not at the command of the commercial vineyardist.

It is to be deplored that neither Oregon, Washington nor Idaho, in which

storing grapes for winter use, in wine making, and in the manufacture of other by-products.

Until this unfortunate seeming neglect of the most promising branch of horticulture is remedied by one or more of the three states interested, grape growers will do well to continue to look to the University of California for such information and advice as they may require. To the viticulturists of that institution thanks are due, not only for the valuable knowledge published in their bulletins, but also for the kindly interest they have ever taken in the grape grow-



VIEW SHOWING A CORNER IN THE VINEYARD OF ROBERT SCHLEICHER IN THE LEWISTON-CLARKSTON VALLEY. THE VARIETY OF GRAPE SHOWN IS THE FLAME TOKAY AT PICKING TIME

and every owner of a vineyard of any size should be prepared to take care of at least a small portion of his crop by pressing it into wine; or, if he has conscientious scruples in the matter, manufacturing it into unfermented grape juice, which has lately become an article of almost general consumption. This industry is promising of great returns, as there would be immense profits in supplying the market with an article of superior quality to that of the juice imported from the Eastern States, at a price considerably lower than the prevailing one. Nor would it require any

three states are large areas of the best grape lands on the continent, have located one of their experiment stations at some point in the arid or semi-arid belt, at an altitude low enough to conduct viticultural experiments.

There is a splendid field for such, and results of the greatest importance, both from a scientific and economic standpoint, would certainly be obtained by methodical experiments in the selection and adaptation of different varieties to different locations, pruning, training, cultivating and irrigating, packing and

ing industry of the Northwest, for which the writer wishes to acknowledge a debt of gratitude.

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Almost the whole world knows of Hood River as a place that produces the best fruits, and all of Hood River Valley should know, and could know, that there is one place in Hood River, under the firm name of R. B. Bragg & Co., that the people can depend on getting the most reliable dry goods, clothing, shoes and groceries at the most reasonable prices that are possible; try it.



# SOUTHERN OREGON A GRAPE GROWING DISTRICT

BY A. H. CARSON, PROPRIETOR OF REDLAND VINEYARD

AT THE present the acreage devoted to commercial grape growing in Southern Oregon is not large. The largest vineyard in this part of the state—one of forty-five acres—is owned by the writer, and is situated six miles south of Grants Pass, in Josephine County. The aggregate acreage now in grapes will not exceed two hundred acres in Josephine and Jackson Counties. From the fact the lands of Southern Oregon that are adapted to the vine are the hillsides and slopes of the foothills, the grape industry has been given no great thought or attention in the development of Southern Oregon's horticultural possibilities. I have realized for a number of years the adaptability of Southern Oregon's large acreage of foothill lands, with ideal climatic conditions for growing the grape, were the people shown how. My own modest success is an object lesson of the fact that commercial grape growing will develop, and these cheap hill lands be improved, and make many valuable homes for the settler who may have the patience and industry to put them in vines and till them.

For the past three years the success I have had on these hill lands in growing such superb European grapes as the Flame Tokay, White Muscat, Malaga and Red Emperor, marketing them in Portland markets in competition with the same varieties grown in California, selling the Oregon-grown grape for more money per crate than California grapes, has attracted the attention of people who have lived here many years. The Flame Tokay reaches perfection on the hillsides of the Rogue River Valley as to color and flavor. When matured, ready to gather, the clusters on an October day look like balls of fire. There is no place on the Pacific Coast where the Tokay colors as highly as it does on the hillsides of the Rogue River Valley.

Our soil and sunshine develop the acid and grape sugar in combination so perfectly that the Flame Tokay of Southern Oregon has no rival on the Coast in flavor for the table.

All of Southern Oregon's choice grapes are grown without irrigation. They are firm and stand long-distance shipment. The shipping qualities of the Flame Tokay were thoroughly tested last season, when I shipped grapes to nearly all the Eastern and Southern states without ice. They were on the road from eight to ten days, and all crates shipped were reported in good condition on arrival. The fact that non-irrigated grapes stand shipment better than grapes grown by irrigation has awakened the people of Southern Oregon to the great opportunity now open to engage in grape growing on commercial lines and make these foothill lands valuable not only to the individual who improves them, but to the states. The industry in Southern Oregon from now on will expand rapidly. During the next three or four years there will be many thousands of acres of commercial vineyards planted. I expect to see this industry grow to such proportions that seven to eight years hence Grants Pass will be the shipping point of hundreds of cars of Flame Tokay grapes.

This winter the acreage that will be planted to Tokays is limited by the number of rooted Tokay vines that can be had of the nurseries on the Coast. Land owners have already filed orders with the nurseries of California and Oregon for rooted Tokay stock until it

is exhausted. Josephine County will plant about 400 acres of Tokays this winter, and Jackson County about 100. Men who have failed to get rooted vines are clearing and preparing land for next winter's planting. There will be 800 acres planted to grapes a year from this winter in the vicinity of Grants Pass. In varieties that will be planted, the Flame Tokay will lead all others, with the Malaga, Emperor and Muscat in the order named, all choice grapes for the table and for the long-distance shippers.

and cheaply to sulphur in powder form. Southern Oregon has soil and climate adapted to growing the vine on hundreds of her hillsides. Natural conditions of the Rogue River Valley for successful viticulture are the best, and the grape grower's success is assured if he plants the grape and attends to the necessary details in their proper season.

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EUGENE, Oregon, which is noted as being the center of a big cherry growing district, is to have a farm near



INLAND EMPIRE GRAPE PRODUCTS

Grapes and wine exhibited by R. Schleicher at the Lewiston-Clarkston Fair, 1907, which received the first prize. The varieties are Flame Tokay, Muscat, Cornichon, Malaga and Emperor. The grapes were grown in Mr. Schleicher's vineyard near Lewiston, Idaho

As a money-making fruit the grape, in my opinion, is among the best. It is an annual producer. There are no off years with the grape. I have grown grapes in Southern Oregon for the past twenty-six years, and during that period have never lost a crop from spring or fall frosts. There is no spraying to do for insect pests and fungous diseases. There is no fungus disease the grape grower has to contend with, excepting powdery mildew, and it yields readily

there of 230 acres devoted to the raising of cherries, walnuts and asparagus. The company to handle it has been incorporated with a capital of \$50,000, and sixty acres have already been planted to cherries, and the same amount to walnuts. Of the former thirty-five acres have been set to Bing and Lamberts and fifteen to Royal Anns. The walnuts are Franquettes and Mayette, and were imported from France for the company by J. B. Pilkington of Portland.



# THE PROPAGATION OF THE GRAPE IN CALIFORNIA

BY GEO. C. ROEDING OF THE FANCHER CREEK NURSERIES

**I**T DOES not surprise one, who has traveled through the countries bordering on the Mediterranean Sea, and along the Rhine in Germany, that California should possess within its borders conditions which make it possible to produce wine, raisin and table grapes, which will compare very favorably with the products of Europe. I do not wish to make the broad statement that our products are superior to the imported, for this is a fault which Californians are addicted to, and at

times we are apt to tread on dangerous ground. If we can induce the consumer to concede that the California product is just as good as the imported we have forced an admission which few are ready to make willingly, for no matter how good the home article may be the natural tendency is to give the preference to the foreign goods, regardless of the quality and cleanliness of the domestic article. Young as California is, she certainly excels the Old World in horticultural work, in modern methods,

cleanliness and in neat merchantable packages in which fruit is prepared for shipment.

We are fortunate in having a diversity of climates and soils, making it possible to produce successfully every variety of grape grown in Europe. The coast counties are already famous for their light, dry wines, the great interior valleys for their sweet wines, brandy and of far greater importance to the American people are our table grapes and raisins. We are not a wine drinking

people and although our wine industry is developing, it is not expanding with the rapidity which is to be expected from an article as pure and wholesome as our California wines are admitted by experts to be. A good pure wine is always preferable to whisky, and it would be a blessing for all communities, morally, mentally and otherwise if it was only served at a reasonable figure, so that those who must have spirituous stimulants would give it the preference at all times. I fear if I continue further along this line I am liable to drift into an argument with those who never indulge, so will devote the time allotted to me to the branches of the industry of greater importance to this particular section.

When the first Muscat grapes were planted in Fresno twenty-five years ago the pioneers were dubious about having an outlet for their product, and this very same fear seems to take possession of every community whenever engaged in a new industry. In all my experience I have never known it to fail, that there were commercial concerns ready and willing to take up the marketing of a product just as soon as it was produced in sufficient quantities warranting them in the construction of a plant. This condition of affairs is aptly illustrated in Fresno. Twenty years ago there were not over two plants devoted to the handling of dried fruits and raisins. How different today; every small town in the great vineyard districts has from two to three packing houses, and in the city of Fresno there are fully twenty plants devoted to the packing and processing of raisins for market. With the development of this industry the seeded raisin became an innovation, and it is largely due to the great demand for this article that such wonderful strides have been made in the raisin business. The importance of getting these raisins into the Eastern market with the least possible delay has made it necessary to construct establishments which have a



In A Vineyard of  
SOUTHERN OREGON  
\*3035

SOUTHERN OREGON GRAPES ON THE VINE. A PROLIFIC YIELD OF FINE FRUIT



capacity of five to twenty carloads per day. One of these seeding plants is well worthy of a few words of consideration, for many who use the seeded raisins for Thanksgiving and Christmas dinners have little or no conception of the several processes which the raisins go through before ready for shipment. When received at the packing house they are first run through a stemmer, a machine which to all outward appearances resembles a small threshing machine. This machine removes all the large stems from the raisins, thoroughly cleans them, and grades them into four sizes. Only the largest and second size raisins termed fancy and choice are seeded. Following the stemming they are next dried by artificial heat for the purpose of hardening them. They are now ready for the cap stemmer, a vertical, funnel-shaped cylinder containing a series of close fitting wire meshes, which revolve in such a way that the small stems which fasten the individual berries to the bunch are broken off. The raisins are next steamed until they become quite soft and the pulp is in a syrupy condition. They are now elevated by belts to the seeder, a most ingenious machine. The seeds of the raisins are extracted by being pressed between two revolving rollers, one of which is made of rubber and the other consists of plates with saw toothed edges. A flicker carries the seeds through a spout to the outside of the building, while the raisins pass through another spout to the lower floor of the packing house, where they are taken in hand by women and girls, who pack them in paper cartons. Thirty-six of these cartons are packed to a case. A by-product plant, erected a few years ago in Fresno, manufactures alcohol and an oil adapted to manufacturing purposes from the seeds.

Raisins put up in this manner are ready for use as soon as received by the housewife, and they have such a bright, fresh and inviting appearance it is not surprising that they have been so much in demand wherever they have been introduced. Some idea of the importance of such plants to a community may be gained from the fact that girls and women earn from \$1.50 to \$3 per day for fully three months during the fall of the year. In Fresno County alone there are at least twenty of these seeding plants in operation, employing fifty to five hundred people during the height of the season.

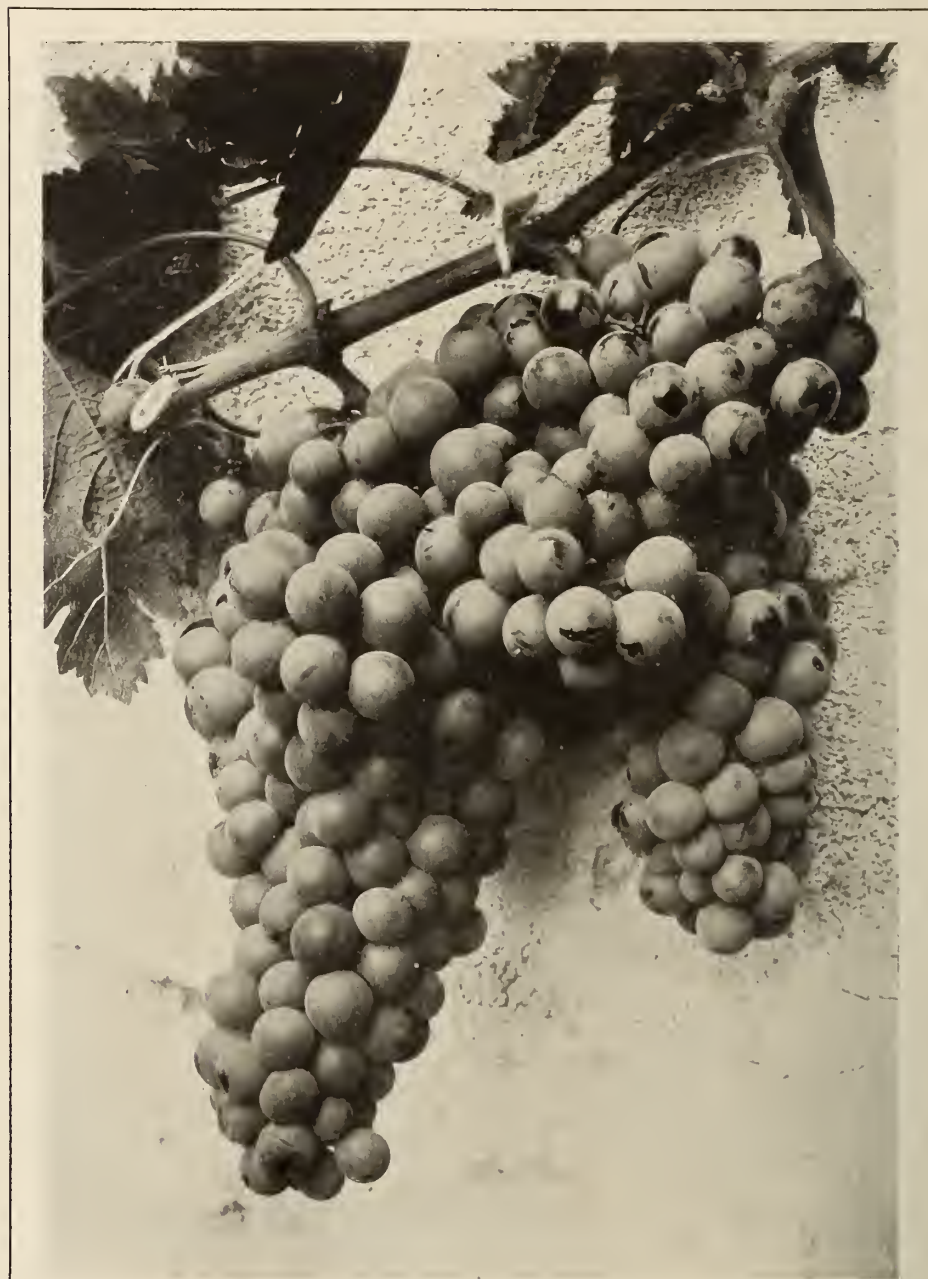
Another branch of the business which gives congenial work to women is the packing of table grapes for Eastern shipment. As a rule it is far better if the work can be done on the premises of the owner, providing the railroad station is not too far distant from the vineyard. Great care must be exercised in picking the grapes; they should be laid down carefully in the boxes and not thrown in. Before packing they are allowed to stand over night in the boxes. In the morning the stems will be slightly wilted and the grapes will be thoroughly cooled by the night air. The grapes are packed in veneered wooden baskets, holding about six pounds each, and there are four of these baskets to a crate. The largest and finest bunches are termed "clusters," and these are packed in long baskets, the bunches decorated with ribbons, with two baskets to a crate. The beds of the wagons on which the grapes are hauled should rest on springs. The refrigerator car in which the grapes are to be loaded has been previously iced, and the cool

condition of the grapes is thus maintained from the time they are packed until they reach their destination in the great Eastern cities. The companies engaged in the transportation of the fruit have ice stations at given points enroute, so that the car is kept cool during its long journey across the continent.

One point must be borne in mind by the grower above all others, and that is to give the most careful and exacting attention in the picking and selecting

Good fruit carefully packed is sure to bring profitable returns and there are always plenty of buyers for goods packed by a grower who maintains his brand up to a high standard, while in a poor article it is very difficult to interest purchasers no matter how low the price may be.

The selection of varieties is a problem which naturally gives the amateur more or less anxiety. Having decided which branch of the industry he wishes to engage in, it is far better to plant vari-



GRAPES GROWN NEAR GREENACRES, IN THE SPOKANE VALLEY, WASHINGTON

of fresh grapes which are to be marketed. Do not forget that the fruit has a twenty-five hundred mile trip ahead of it, and the condition in which it arrives at destination is primarily dependent on the care and close attention to details observed by the grower to begin with. Do not deceive yourself by saying "your work is good enough" when you know it is not, for if this is your guiding principal I would advise you never to engage in grape culture.

eties which have been profitable in tried districts, providing, of course, climatic conditions are similar in the new locality. In California the following wine grapes have given very satisfactory results: Alicante Bouschet, Burger, Black Malvoise, Carignan Grenache, Fehér Zagos, Mission, Petit Bouschet, Petit Syrah and Zinfandel. The great Sacramento and San Joaquin valleys produce the finest table grapes, and the following are the sorts which have been most widely



planted. I have named them in the order of their commercial importance: Flame Tokay, Malaga, Thompson Seedless, Emperor, Black Cornichon, Rose of Peru, Black Ferrera, Black Hamburg, Gros Colman. For raisins, Muscat, Thompson Seedless and Sultana have been generally planted. The Muscat and Thompson Seedless can also be used for wine purposes. The Muscat has been more widely planted for raisins than any other variety. There are two distinct types described in most cata-

Another reason for this is that it very often happens that the round and oblong berries will be found on the same vine, so that if there is any real distinction it is not apparent as a rule.

Beginners often make the mistake of planting too many varieties, and in this day of commercialism and high wages commanded by help nothing can be more discouraging to the producer than to have a little of everything and not much of anything. Do not plant more than fifty vines of assorted varieties for home

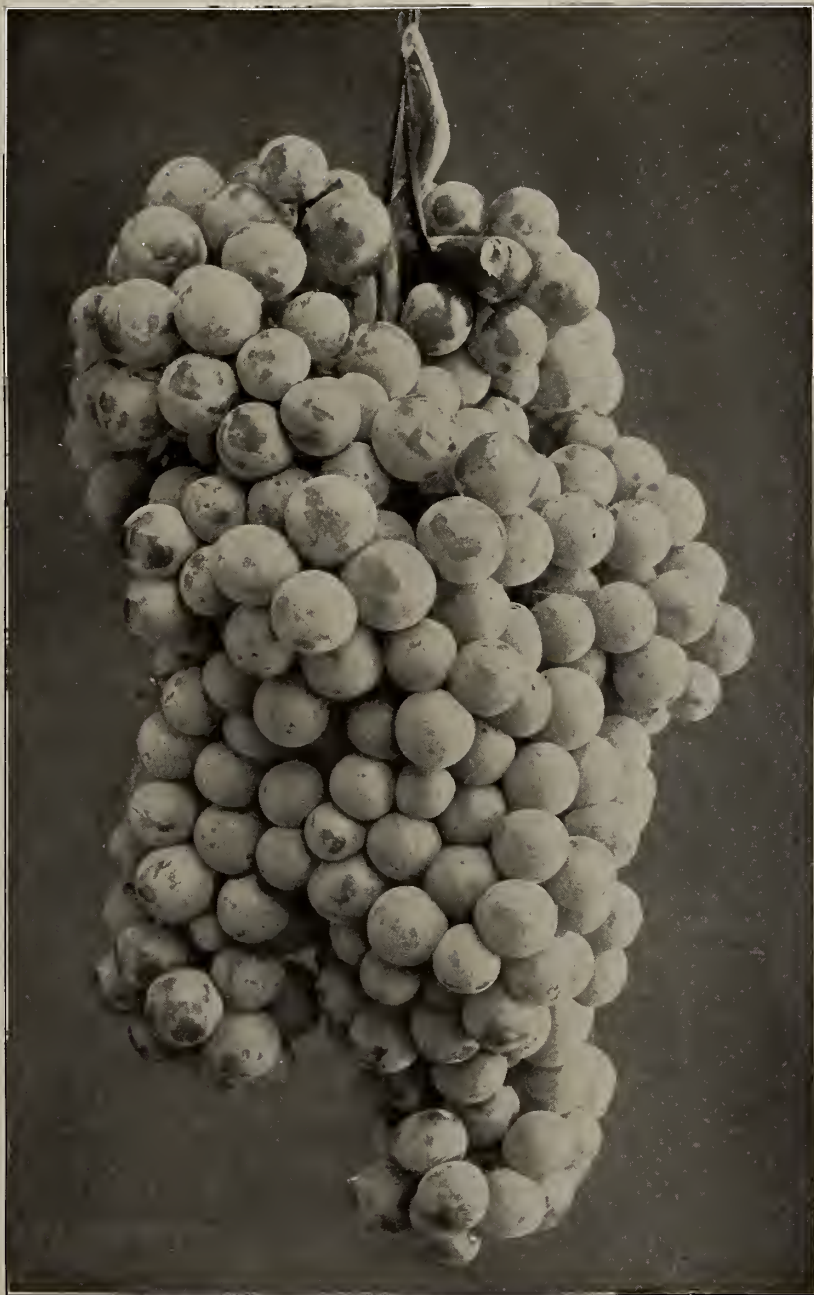
reason that you are too important a factor for him to overlook.

In planting a vineyard make it a point to have the rows in a straight line. Get your base lines at right angles, and the rest is easy. Lay your vineyard out in blocks and use a wire which has pieces of colored cloth or is soldered at the points where the vines are to be placed. This wire should be made sufficiently heavy so that it will not stretch too much in drawing it taut across the field between the blocks. A wire made with links is preferable, as it does not stretch much, but such wires are expensive, and it is entirely practical to use the woven wire. If care is exercised in laying off the ground the vines will line up in all directions. Before planting the vines should have all lateral roots removed, and those which radiate from the base of the cutting should be shortened in to about three inches. The entire top of the vine should be cut off, with the exception of three inches from the collar, having from three to four eyes. The vines should be staked with two-foot stakes the first year. Cheap stakes will answer for this purpose. By following this plan you obtain a straight stem and form a head on your vines from ten to twelve inches above the ground. All vines should be handled in this manner, regardless of their subsequent method of pruning. No fixed rule can be laid down for pruning vines in later years, for what suits one locality might not give satisfactory results in another, due to climatic conditions. In former years most vineyards in Fresno County have been planted eight by eight feet. Many planters prefer, however, to plant raisin vineyards either six by twelve or seven by ten, leaving the wide row east and west, so that the trays on which the grapes are placed will receive the full benefit of the sun's rays. Rampant growing table grapes like Emperor, Black Cornichon and Thompson Seedless are planted either eight by ten or ten by ten. Roads should be left at intervals of about twenty-five vines to permit the hauling out of grapes and distributing of picking boxes in the vineyard.

It is safe to say that grape growing is the most important branch of the fruit growing industry in California today, and that there is still a wide field for exploitation, not only here, but also in the fertile plains of Eastern Oregon and Washington, where conditions are said to be very similar to our great interior valleys.

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**P**ORTLAND runs more special excursions of her business men out to points of interest throughout her trade territory in the Northwest than any other city in the United States, and special excursions are now being discussed to the Rogue River Valley, Lewiston, Idaho, and Hermiston, Oregon, as well as to other points. The Portland Commercial Club, the Pendleton Commercial Association, and the commercial bodies of Umatilla, Echo, La Grande, Baker City, The Dalles, Hood River, and other points along the line of the O. R. & N. will join in an excursion to Hermiston the latter part of May to celebrate the opening of the head gates of the Umatilla Government irrigation project, upon which the Government is spending \$1,100,000. It is expected that several thousand people will be present to witness the turning of the water upon the arid lands of Umatilla County.



BUNCH OF GOLDEN CHASSELAS GRAPES GROWN IN SOUTHERN OREGON

logues, Muscat Alexandria and Muscat Gordo Blanco. The former is supposed to be a rather oblong grape, while the latter is round. These two varieties have become so thoroughly intermingled, however, that it is exceedingly difficult to distinguish them apart, and in referring to vineyards planted to this grape they are merely known as Muscats.

use, and make your main planting of a few standard sorts, enough of each to have at least a carload for shipment during the season. Today it is the man who has a large quantity of grapes to offer who commands the respect of the man who buys and sells your product, and he feels urged upon to pay you a good price for your fruit for the simple



## DOINGS OF FRUIT GROWERS OF THE NORTHWEST

**H**OOD RIVER, Oregon, apple growers held an interesting horticultural meeting in the month of March. It was well attended and many points of interest in regard to present and future conditions in the fruit growing business brought out. Briefly, some of them were that districts growing cheap and inferior grades of apples would eventually be forced out of business; that there will always be big money in apples, even though the price should drop to \$1 per box, and that the time is fast approaching when the Apple Growers' Union if it would continue to handle the apple crop here must build cold storage warehouses. It was suggested that one of these should be constructed in the city and the other be centrally located in the orchard district and built in such a way that its capacity could be gradually increased as occasion demanded. Another point of interest was the fact that apple buyers who had made a study of the question showed that it was the intermediate sizes of that fruit which were in most demand by dealers and also that there was the most money in them.

Pullman, Washington, has a resident near it in the person of Rev. T. W. Walters who has three hundred acres of wheat and twelve acres of Spitzenbergs, Northern Spys and Yellow Newtowns. Mr. Walters recently stated that he has been making more money from this small orchard for the last fifteen years than he has from his three hundred acres of wheat.

Twin Falls, Idaho, capitalists have purchased a large tract of land near there and will expend \$100,000 in developing a 2000-acre fruit orchard. The company has been incorporated and has already begun to clear the land preparatory to setting trees.

Spokane, Washington, and its enterprising citizens have conceived the idea of holding a big apple show next December at which the whole world will be invited to exhibit fruit. It is proposed to raise \$100,000 for the affair, and the

large prizes which will be offered will attract exhibitors from far and near. Many prominent men have lent their assistance to the project, and its success is said to be assured.

Clatsop County, Oregon, fruit growers met with Fruit Inspector C. S. Dow at Astoria March 22 and interchanged experiences and observations on how to develop and improve fruit conditions

saps. Jonathans, Rome Beauty, Newtown Pippins, Delicious and Grimes Golden. The trees were planted by the Idaho Fruit Land Company at Mountain Home orchard.

North Yakima, Washington, is getting ready for a busy season, and is getting things in shape for the coming fruit crops. E. E. Sampson, manager of the Yakima County Horticultural Union,



WOODBURN NURSERIES MAKING A DELIVERY OF 100,000 TREES

there. Spraying, pruning and fertilization were discussed and it was stated that apples could be grown near Astoria cheaper than in any place in the state, owing to the fact that it is claimed that San Jose scale and the codlin moth do not exist there.

Boise, Idaho, recently received the largest consignment of fruit trees ever brought into that district. In all it consisted of 60,000 trees. The varieties were principally Spitzenbergs, Wine-

recently returned from the big Eastern cities, where he disposed of 14,000 boxes of apples at profitable prices which the union had in storage. Some of the fruit went to Kansas, Nebraska and Mexico, and brought from \$1.50 to \$2 per box.

Cashmere and Wenatchee were claimed on March 22 to have about all the available apple supply in the state of Washington. This is said to have amounted to about fifty cars, which were expected to go at \$3 per box.



BUDDING SCENE IN THE WOODBURN, OREGON, NURSERIES



# FRUIT CULTURE IN THE SPOKANE RIVER VALLEY

FOR many years the Spokane River Valley and the surrounding valleys have adapted themselves principally to grain raising, as in that crop, with our nineteen inches of rainfall, distributed largely in the spring and fall, were better hopes of success than the raising of crops which require moisture during the dry July and August in order to reach maturity. Under this state of affairs a settler must necessarily farm a consider-

entirely undeveloped. It was a semi-arid district of questionable value and was deemed an insignificant factor in Spokane's resources, as compared with the glittering possibilities of her mining tributaries or the substantial industries her surrounding timber country was building. The thousands of people employed directly or indirectly in the development of these rich resources had little

dryness of the fall usually kept the fruit from developing well. But occasionally, when there happened to be rain later than usual, these orchards produced such fruit as could not help but bring forth the knowledge that the only element lacking to make this a fruit country among the best was the water. The places where the subirrigation from the surrounding hills supplied more moisture were seized upon and planted to fruit and berries. These tracts, although limited in number, produced abundance of fruits, the excellence of which was beyond expectation. The old Spokane Fruit Fairs (now grown into the Interstate Fair) gathered together fruit displays which began to attract much attention.

The thousands of dollars which were every year being sent away to other irrigated districts in payment for produce to supply the Spokane market, and through it to its tributaries, also called attention to the wonderful saving and profit which could be brought about by the transformation of the semi-arid wheat country into intensified fruit producing. Capital began to "sit up and take notice" of this heretofore neglected opportunity. The Spokane Valley Land and Water Company was formed, secured water rights of Liberty Lake, Fish Lake, Sucker Lake, Hayden Lake and the Spokane River. In 1902 the company began operations by the development of the smaller and least expensive of these supplies. Liberty Lake, its intention being to develop this and perhaps some of the other smaller supplies until such time as it had thoroughly demonstrated the success of the lands watered, the best methods of irrigation, the proper form of water delivery, the quantity needed, and such other important points, when it was proposed to begin the construction of the immense river canal, which was to supply the best and largest part of the valley.

There is developed at the present time by irrigation approximately 14,000 acres of the valley lands, consisting of the following districts: Greenacres, 640 acres, began 1902; East Greenacres, 4500 acres, began 1904; Otis Orchards, 2000 acres, began 1904; Opportunity, 3000 acres, began 1905; Hayden Lake, 3000 acres, began 1906; East Farms, 1000 acres, water to be delivered 1908, canal now built.



PICKERS AT WORK IN A LEWISTON, IDAHO, ORCHARD SET TO BERRIES

able area in order to gain a justifiable return for himself and family, and the returns received seemed to justify valuations of from \$10 to \$35 per acre for their lands, but now and then an unusually dry season would make it impossible to substantiate these values, and as a consequence the valley was very thinly settled and a large part of it remained

time for thought as to bettering her agricultural advantages.

These wheat farmers were, however, destined to be the means of bringing to general notice the possibility of a richer future for their lands. Small orchards, which they planted for their own use, received ordinarily enough rainfall to keep the trees growing nicely, but the



WATERMELON FIELD NEAR GREENACRES, WASHINGTON



The larger part of this area is being set out to fruit, consisting mostly of winter apples, cherries and peaches. A few of the earlier orchards are now coming into bearing and fulfill the greatest expectations as to size, flavor and color of fruit. Many mistakes have been made in setting out these orchards, but a large number of the tracts have been set out by experienced orchardists and will in time develop into excellent commercial orchards.

The orchards of S. S. Strahorn and Charles Holland at Greenacres and the forty-acre orchard of C. F. Fullerton at Otis Orchards are attracting a great deal of attention, and the manner of handling is being copied by many newcomers. It is in these orchards that the future richness of the valley lays, although the crop which is being raised between the trees while the orchard is growing into fruitage is worthy of consideration. The nearness to Spokane's markets solves the question which daunts so many would-be fruit raisers: "How to make a living while the trees are developing."

The water supplies for these districts are Liberty Lake, six miles of canal, East Greenacres, Fish Lake with fourteen miles of canal, Otis Orchards, Newman Lake canal, Opportunity and Hayden Lake are supplied by pumping plants. East Farms is to be supplied by the canal which is now being built from the Spokane River at Post Falls. This latter is by far the largest enterprise in the valley, as it has a sufficient water supply and the canal is constructed so as to supply 20,000 acres of land. East Farms is the name of the first tract which the canal will water, and the canal is now constructed to that point. The Spokane Valley Land and Water Company owns this proposition, and Mr. D. C. Corbin, the Spokane financier, is at the head of the company.

The development of the water systems of Greenacres and East Greenacres has brought out the fact that for the best results from water delivery the canals should be so constructed as to give a big head of water to each settler at the time of irrigating. The soil is of a very porous nature and can therefore be very quickly flushed by means of rills laid out with a fall of from seven to twelve feet to the mile. A ten-acre tract with a proper head of water can be thoroughly watered in two days' time, and four or five irrigations during the season are all that are necessary, and each irrigation should equal from two to three inches of rainfall. It has been safely demonstrated that the same or double the amount of water should not do as good work if delivered in a small



GRAPES GROWING IN A VINEYARD NEAR LEWISTON, IDAHO

stream, which will not enable the flushing of the land quickly. The development of the big river canal means that practically all of the lands near the city of Spokane adaptable for irrigation will be irrigated. The farmers' institute held at Greenacres brought

out the fact that the valley lands irrigated are especially adapted to the raising of the following crops: Apples, cherries, peaches, dewberries, strawberries, tomatoes, potatoes, melons, sweet corn, onions, cabbage, and many other fruits and vegetables which the raising



THREE-YEAR-OLD PEACH TREE AT GREENACRES, WASHINGTON





REMARKABLE YIELD OF PEACHES NEAR LEWISTON, IDAHO

of, near a big market, makes most profitable. Mr. Charles Taylor, of Greenacres, Washington, states that his land has yielded an average of twenty tons of tomatoes per acre, and Mr. Justin Clark of the same place stated that he had sold

\$670 worth of dewberries from three-fourths of an acre during the second year after planting. Many excellent yields of apples have been reported from four-year-old trees, and the old orchard of Mr. J. W. Hatch at Greenacres has pro-

duced immense amounts of apples and pears during the five years it has been reclaimed since irrigating. Mr. C. Zimmerman makes the statement that he has averaged 225 sacks of fine Burbank potatoes to the acre, between his trees, and Mr. A. M. Richardson, also of East Greenacres, claims 250 sacks to the acre as his yield. Double crops of early potatoes and beets have been reported as a very profitable means of getting large returns from the ground.

With such yields as these, and many more which would take too much room to enumerate, it can readily be seen what a vast production will result from the valley when it is settled from the city limits to the shores of Lake Coeur d'Alene. That even this entire amount will not meet the requirements of the city's needs is apparent to all who study into the matter.

Spokane is the trading point for the wonderfully rich mining, timber and wheat-raising country surrounding, and the majority of her 100,000 people are engaged directly or indirectly in the commercial affairs caused by developing these resources. Being surrounded on all sides by mountainous country and rolling wheat land country, the available lands for the supplying of produce are limited to the Spokane Valley, and as this has only just started in its development, Spokane and its tributaries are being supplied by the output of irrigated countries many of which are at a considerable distance. This means the sending away every year of vast amounts of money which these other resources have produced, into districts which are in no way dependent upon Spokane as a business center. Fruits shipped into Spokane from several hundred miles away must

bring a big price in order to cover the cost of shipping, spoilage and handling, and when this same produce has to be shipped again some hundred or so miles into the surrounding timber or mining country it is not in the best of condition. So though the Spokane markets are apparently well supplied the Spokane Valley farmers can put the same articles into the market for what it has cost to handle them from the outside districts.

The Spokane Valley is very limited and without some help from the outside districts could not begin to supply the demand, and there is also demand for shipment of the valley fruits to many Eastern points. If the settlers of the valley lands will systematize their production with a view to the local demand



ORCHARD SCENE AT EAST GREENACRES, SPOKANE VALLEY, WASHINGTON

Continued on page 28



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## A DESCRIPTION OF THE FAMOUS LEWISTON-CLARKSTON DISTRICT

**N**OWHERE in the Inland Empire, which has been prolific in surprises, has there been more wonderful development than in the Lewiston-Clarkston Valley. Irrigation is rapidly making of that valley one of the wonder spots of the American continent. Climatically it is a marvel. Although it lies north of the parallel of latitude which intersects Montreal, it has a climate which for mildness approximates that of Southern California and the older lands around the Mediterranean.

As one looks across Snake River from Clarkston at the wonderful heights leading up to the lofty plateau of the Palouse country, one notes the striking resemblance of these breaks of the Snake to the rugged heights of Catalina Island, off the coast of Southern California.

A better proof of the resemblance of the South Clarkston country to the climatic conditions of the South was presented in the impressive exhibits of Southern grapes—Muscats, Flame Tokays, and all the other varieties which have made California famous as a grape and wine producing region.

Robert Schleicher, the pioneer at Lewiston in this delightful industry, whose grapes and wines have enjoyed a Northwestern reputation for many years, and whose vineyard has excited the interest and admiration of officials of the United States Agricultural Department, is trying to induce others to plant large vineyards. "Our greatest need," said Mr. Schleicher, "is larger production, so that we can ship our grapes in carload lots to the Montana

THE WAY FLAME TOKAY GRAPES GROW IN LEWISTON-CLARKSTON VALLEY, IDAHO

and Eastern markets. I must now ship in less than carload lots at a greatly higher freight rate, and thus have to compete with the California producers who are sending out their products in carload lots."

In the exhibit hall of the Lewiston-Clarkston Interstate Fair grapes were on display literally by the ton. All day long these fine products were distributed free with a lavish hand to all who came for them. The exhibits of apples, peaches, pears, plums, apricots, nectarines and other fruits were, in the judgment of many who have seen the horticultural displays at world's fairs, superior in some respects to anything ever before assembled in this country.

Immediately around these two towns there are now under intensive cultivation several thousand acres of as fertile irrigated lands as may be found upon the globe. The growth of Clarkston, lying across the Snake River from Lewiston, in Asotin County, Washington, is one of the marvels of irrigation enterprise. Ten years ago the Clarkston flat was a dreary waste of desert, with hardly a house upon it. Today 3000 people have under high cultivation 2000 acres of orchard, vineyard and garden. They have all the delights of country life, with many of the advantages of city improvements—water under pressure, electric lights, sidewalks, graded streets, daily mail delivery, fine schools and churches, and homes of architectural beauty. The Lewiston business district lies at an elevation of about 700 feet above sea level. Imme-

diately back of the business district lies the newer residence section on a bench rising sharply from the business district at an elevation of from 800 to 1000 feet above the sea. This bench in turn rises to a height above sea of about 1400 feet to a noble plateau extending many miles away to the Craig Mountains. Upon this plateau there is being placed under irrigation 4000 acres, upon the same modern and scientific irrigation plan as Clarkston Heights. The lands are platted like city lots in five-acre tracts; every tract fronts upon a broad street and has a sixteen-foot alley in the rear. The water is distributed in buried pipes over each of these great tracts. A ten-inch main

is in every alley; connection is made with the company's mains just as the lot owner in Spokane, for example, connects with the city water system. Some of the tract owners have laid service pipe the full length of their tracts, with a hydrant tap between each two rows of trees. When the owner wishes to irrigate he has only to walk the length of his five-acre tract, turning on these taps one by one, and allow the water to flow in small surface ditches between the rows of trees.

The view from the elevated plateau at any point back of Clarkston or Lewiston is worth a transcontinental journey. For miles and miles the orchards roll away in almost

unbroken continuity, with here and there a clump of Lombardy poplars to impart dignity to the delightful scene. All this transformation has been wrought in a valley which, from the days of the advent of Lewis and Clark in 1811 down almost to the present day, was regarded as a desolate and hopeless waste.

The valley has a stirring history. When in 1861 the gold hunters, whose imagination had been inflamed by the marvelous placer discoveries of Pierce City, Orofino, Warrens and other historic camps, poured into the country by thousands, a brisk but largely tented town sprang up like a mushroom on the site of the present city. Attempts to found a town farther up

the Clearwater and nearer the placer deposits had failed. After the adventurous gold miners had exhausted in a large measure the wealth of the placers, they scattered again to the four winds and Lewiston dwindled to insignificant proportions. Even so late as a decade ago it had fewer than 1000 population. With its sister city — Clarkston — it now numbers from 10,000 to 12,000. The people of these twin cities have a deep and abiding faith in their destiny, based



GROWING FRUIT IN THE LEWISTON, IDAHO, BASIN. YOUNG ORCHARD WITH STRAWBERRIES PLANTED BETWEEN THE ROWS OF TREES



A GLIMPSE OF THE LEWISTON-CLARKSTON VALLEY

only in part on the wonderful productiveness of their irrigated lands. For back of them lie the more elevated and exceedingly productive wheat lands of the Camas Prairie country, the grain and orchard lands of the Salmon River Valley, a vast region known to be rich in mineral wealth, and great forests of the finest pine and tamarack. They are keenly concerned with the opening of the Snake and Columbia Rivers to the sea, believing that with water transportation and the building of railroads their growth will be rapid and continuous.

The visit of the Spokane delegation to the Lewiston-Clarkston Interstate Fair was of keenest interest and pleasure. The dominating aspect there was the evident prosperity of the people, the well dressed crowds and their apparent enjoyment and happiness. It warms the heart to mingle with a crowd of this character, containing as it does all of the finer types of Western American citizenship—men and women of vigor and courage from the orchards, the grain fields, the mining camps, the lumber regions. The picturesqueness of the occasion was further heightened by the presence of many Nez Perce Indians. This tribe is one of the finest with which the American people have been brought in contact.

Almost upon the very site of the present city of Lewiston, Lewis and Clark, in 1811, held a great council with the chiefs and head men of these Indians. From that date down to 1877 it was the boast of the Nez Perces that the treaty of peace negotiated in that council had never been broken—that the Nez Perces had always been firm friends of the white man, and no white

man had ever been slain by a Nez Perce. In 1877 occurred the terrible Nez

Perce uprising, but since that year the Nez Perces have been at peace with their white neighbors. Physically they are a solid, well-built race. Many of them are of noble demeanor, with great heads and solid jaws set firmly on massive necks and shoulders. As a tribe they are exceedingly prosperous, and spend their money freely for the good things of civilization. Situated in a deep, broad valley at the junction of important rivers, on the only water-grade route from the Rocky Mountains to the Pacific Ocean through the vast, irregular, intermountain plateau, at the only broadening of the canyons for hundreds of miles, Lewiston-Clarkston is the logical "Key to the Pacific Northwest," the gateway to the ocean from the mountainous plateaus of the interior. It is the necessary distributing center for 25,000 square miles of tributary territory; a rich new wheat, barley and oats country that now yields 10,000,000 bushels and will soon yield 25,000,000 bushels per year; a dozen different, thrifty yet still new, gold, copper and mining camps of great promise; a lumbering region as rich as Michigan's richest in that industry; fat stock ranges, fertile lands of vast extent, and rich irrigated valleys of the immediate neighborhood. It shall have an all-the-year open water route to the ocean, and already has rail and water routes radiating in five directions. It shall be the seat of manufacturing of wheat and other cereals, lumber, furniture, etc., woolen goods, paper and paper goods, meat products and leather articles. Why not, with water-electric power, cheap coal, raw materials, cheap transportation, abundant markets?



BOX OF YELLOW EGG PLUMS GROWN IN LEWISTON-CLARKSTON VALLEY. NOTE SIZE OF PLUMS BY FOOT RULE



# BETTER FRUIT

HOOD RIVER, OREGON

OFFICIAL ORGAN OF  
THE NORTHWEST FRUIT GROWERS' ASSOCIATION

A MONTHLY ILLUSTRATED MAGAZINE  
PUBLISHED IN THE INTEREST OF UP-TO-DATE  
FRUIT GROWING AND MARKETING

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AS WILL be seen our May number is largely devoted to grapes, which are becoming a very important branch of the fruit growing industry in the Northwest. In devoting so much space to grape culture we have endeavored to get articles and illustrations that are representative of all the districts where they have attained the position of being a commercial factor. The articles are from practical growers, and treat on the various subjects of propagating the grape successfully according to conditions in the district where the writer lives. With pardonable patriotism each of the writers thinks his district is a little better adapted to this branch of horticulture than any other and grows the finest fruit. As to this we must leave the matter to the judgment of the reader. The fact remains, however, that they are all growing the finest kind of grapes, getting good prices for them, and whether from Oregon, Idaho, Washington or California. The variety that seems to have been the greatest money maker, according to a consensus of opinion among the writers, is the Flame Tokay and many arguments are brought to bear to show that there is an unlimited market for them. It would seem that in the very near future grapes will occupy a position in the fruit industry in the Northwest second to none, and that vast sections will be devoted to their culture. ♦ ♦ ♦

REPORTS so far point to a most successful season for the fruit grower. From all districts comes word that trees have wintered better than in many years, and that frosts and other drawbacks have so far not materialized. Trees have been set in larger quantities, more interest is being shown in preparing for a cleaner crop, and a movement being made everywhere for better general conditions. ♦ ♦ ♦

MRS. MARION McRAE in the Portland Board of Trade Journal again wields her facile pen in portraying the wonders of Hood River as a fruit growing district, and it must be said with a good deal of success. Mrs. McRae knows her Hood River from A to Z, and is nothing if not enthusiastic as to its opportunities and advantages. ♦ ♦ ♦

IN MANY respects there is no more enterprising class of fruit growers to be found anywhere than the residents of the Lewiston-Clarkston country. Going at it in a systematic and practical way

they are developing and improving this fertile district in a way that attracts investors and create a most favorable impression on all who visit there. Judicious advertising is not the least of the success in helping this favored spot. Another feature that is giving it much prominence is the fact that the acreage is sold only under certain restrictions that include a certain percentage of improvements yearly, and also obliges the purchaser to conform to regulations that make all the tracts uniform, such as fencing. Provided with fine irrigation systems, some of which serve also for fire protection and domestic purposes and other conveniences, this section will eventually possess all the blessings of the urban combined with the attractions of the suburban life.

WHILE the Spokane Valley is a section that we may not have heard quite so much of as a fruit growing district as some others, illustrations and articles printed on other pages of this number will show that it has with other parts of the Northwest that same fertility of soil and natural climatic conditions that go to make it a most desirable place for the fruit grower to locate. The preference of the individual in the matter of climate is as variable as it is on any other of the questions affecting

## FRUIT MATTER NEWS FROM HERE AND THERE

Spokane, Washington, and the Lewiston-Clarkston country with its characteristic enterprise conceived the idea of having a train on which were prominent railroad men and the staff of the Washington State Agricultural College make a tour of the fruit growing districts in that section for educational purposes. The train started from Spokane on March 27, and everywhere it stopped drew immense crowds. The railroad men and horticulturists who made the tour were highly pleased with their reception and the great interest evinced by fruit growers is expected to result in stimulating the fruit growing industry there and likewise in more effective work in orchards.

Salem, Oregon, recently entertained a meeting of the Marion County Horticultural Society, which discussed several problems affecting that county. Among other things it was declared that prunes should be inspected and that growers ought to co-operate in the idea in order to get the best results. Cover crops came in for a good share of consideration, with the result that it was thought best to plant vetch or some other crop that could be plowed under to maintain the humus in the soil. A box of French prunes which were placed on exhibition were declared to be no better than the fine grades of the Oregon article, although commanding a much higher price.

The Deschutes Valley, Oregon, much of which is being improved by the Deschutes Irrigation and Power Company, is making preparations to extend its orchard interests this year. It has been found that apples and other fruits do exceedingly well in the Deschutes Valley. Small fruit growers have been very successful there and English walnuts and soft shell almonds have also been found to do well.

Okanogan, Washington, as a fruit growing district had its past, present and future ably presented there recently

life. While some prefer a moist and slightly warmer average temperature, others like a dry and somewhat cooler one. To the latter this section ought to particularly appeal with its bright sunny days during most of the year, adequate water for irrigation and its productive soil. Fruits and vegetables of all varieties that can be grown in the temperate zone are raised there, and increased transportation facilities are pointing the way to a prosperous and big development of this region.

♦ ♦ ♦

### A Manly Religion

It must be frankly confessed that certain types of religious thought and practice do not attract or appeal to the manly mind. Wherever it demands any kind of slavish submission as a requisite condition, or where it demands only the passive, it cannot possibly enlist the devotion of the real man. But that conception of religion that demands the sturdier qualities of the soul, and insists upon forceful action, must necessarily appeal. A religion demanding strength must appeal to the strong. A religion demanding courage must appeal to the brave. A religion demanding as its chief principle that men should be manly, strong, free, will always appeal to true men.

by W. E. Kirkpatrick. The occasion was a meeting of the Okanogan Horticultural Society, and Mr. Kirkpatrick showed during his address how rapidly this district has come to the front. Out of twenty-three entries made by the Okanogan country at the Spokane fair last year it received nineteen prizes, a higher percentage than that of any other county that exhibited. Its display of peaches was notably fine and captured the blue ribbon.

Wenatchee, Washington, is increasing its acreage, 12,000 more fruit trees being recently planted there by the Columbia River Fruit Company. They consisted chiefly of apricot, peach and apple trees. This section is also considering the proposition to increase its canning facilities for the coming season. Land at Wenatchee is still going at a high figure. Harry Shotwell, a well known orchardist there, recently sold twenty acres of his fine fruit ranch for \$20,000 to a purchaser from North Dakota.

The Willamette Valley, Oregon, has been fortunate in a number of meetings this spring addressed by M. O. Lowndale, the well known orchardist, of Lafayette, who is advocating a general clean up and pruning of orchards, which is being heeded. By growing good fruit himself, Mr. Lowndale's advice carries weight, and his voice and pen are doing much to bring the fine orchards that once existed in this fertile valley to their condition.

The Dalles, Oregon, report more tree planting this spring than in any former year, one grower alone setting out 11,000 peach and cherry trees. Others are setting out from 500 to 1000 trees apiece, and clearing is going on there on wholesale scales.

At Moscow, Idaho, a fruit growers' union has been incorporated under the name of the Latah County Fruit Growers' Union, with the object of improving growing and shipping conditions in that section.



## FIFTH EDITION OF WASHINGTON SPRAY CALENDAR

JANUARY 1, 1908

WRITE FOR INFORMATION TO THE WASHINGTON AGRICULTURAL EXPERIMENT STATION, PULLMAN, WASHINGTON

Insect or Disease	Plant Attacked	What to Spray With	First Spraying	Notes
1 Codlin Moth.....	Apple, pear.....	Arsenate of lead.....	While the last blossoms are falling. Spray with force directly into every flower. Use a Bordeaux nozzle.....	Repeat one week later in the same way. If necessary a third four weeks after the first worms appear under bands. A fourth three to four weeks later
2 San Jose Scale...	Nearly all deciduous trees .....	Sulphur-lime wash.....	In the spring before the buds burst	
3 Oyster Shell Bark Louse .....	Apple, mainly.....	Sulphur-lime wash.....	When the leaves are off the tree .....	After the eggs under the scales hatch (May 15 to June 15), spraying with kerosene emulsion, 1 part to 10 parts water, or whale oil soap, 1 lb. to 5 gallons water, is effective
4 Peach Worm or Twig Borer....	Peach, sometimes plum, apple and cherry....	Sulphur-lime wash.....	Just as the buds swell in spring	Arsenate of lead may be used in summer before worms appear
5 Bud Moth.....	All orchard trees.....	Sulphur-lime wash.....	Just as buds are swelling....	Or arsenate of lead just as the buds open in spring. Repeat in one week
6 Green Aphis.....	Apple, plum, prune....	Sulphur-lime wash.....	When the leaves are off the tree .....	Kerosene emulsion is effective when the insects appear. Repeat if necessary before the leaves curl. Cutting off twigs covered with eggs in winter usually suffices for young trees
7 Black Aphis.....	Cherry, peach, etc.....	Kerosene emulsion or whale oil soap.....	Before the insects curl the leaves	
8 Woolly Aphis. .	Apple .....	Kerosene emulsion, 1 part to 12 parts water	When the insects appear.....	For the root form, when present, treat with finely ground tobacco placed in soil around base of tree; use 2 to 5 lbs. to a tree
9 Aphis .....	Hop, rose, house plants, etc. ....	Whale oil and quassia..	When the insects appear.....	Repeat if necessary
10 Cabbage Worm...	Cabbage, cauliflower...	Paris green dust.....	Before the worms eat into cabbage .....	Make dust of 1 part paris green to 25 to 50 parts bran or flour
11 Cabbage Aphis...	Turnip, cabbage.....	Kerosene emulsion.....	Just as soon as the insects appear .....	Repeat if necessary
12 Slug .....	Pear, cherry.....	Arsenate of lead or paris green.....	When the insects appear.....	Or dust with lime, road dust or fine ashes
13 Red Spider.....	Fruit trees, bushes, etc.	Sulphur-lime wash.....	When the leaves are off the tree .....	This will kill the winter eggs. If the mite appears in summer use kerosene emulsion, best adding 1 ounce of sulphur to the kerosene for each gallon of spray
14 Blister Mite.....	Pear leaf.....	Sulphur-lime wash.....	When the leaves are off the tree .....	
15 Peach Tree Borer	Peach, prune.....			Dig out worms in fall and spring with a knife. During the growing season keep base of trunk white-washed
16 Flat-head Borer..	Apple, mainly.....			
17 Cottony Scale....	Pear, currant, poplar, etc. ....	Kerosene emulsion.....	When insects become cottony (May) .....	
18 Scab .....	Apple, pear.....	Bordeaux .....	Just before the blossoms open.	If there is much scab, again while the last blossoms are falling, using a Vermorel nozzle. Do not drench the trees
19 Blackspot Canker	Apple .....	Bordeaux, double strength .....	Immediately after the leaves fall .....	
20 Brown Rot or Fruit Mold....	Plum, cherry, peach....	Bordeaux .....	Just before the blossoms open.	
21 Leaf Curl.....	Peach .....	Sulphur-lime wash.....	Just before the buds open	Again just after blossoms fall. Spray a third time just as the fruit begins to ripen, with copper acetate, 8 ounces to 50 gallons water. Before first spraying, gather and burn mummified fruits. Thin green fruit so that all are separated. Prune trees so as to admit much sunlight
22 Peach Mildew....	Peach .....	Sulphur-lime wash.....	Before buds burst	
23 Gooseberry Mildew	Gooseberry .....	Potassium sulphide, 1 oz. to 2 gallons water	Just as buds burst.....	
24 Scab .....	Potato .....	Formalin, 1 lb. to 30 gallons water.....		Soak seed for two hours, then cut and plant. Do not plant in soil where scabby potatoes were grown
25 Potato Blight....	Potato .....	Bordeaux .....	July 1 to 15.....	Again two weeks later. If blight is bad on unsprayed potatoes near by, follow with a third application two or three weeks later
26 Anthracnose ....	Bean .....	Bordeaux .....	When plants are well started..	Again three weeks later. Follow with a third spraying three weeks later. Before planting seed reject all diseased ones
27 Smut .....	Wheat and oats.....	Formalin, 1 lb. to 45 gallons water.....		Sprinkle the seed thoroughly; let it lie in a pile two hours; dry and plant with a clean seeder
28 Moss and Lichens	Fruit trees.....	Lye or strong sulphur-lime wash.....	When the leaves are off the trees	

## Bordeaux Mixture

Bluestone .....	6 pounds
Good lime .....	4 pounds
Water .....	50 gallons

Dissolve the bluestone by suspending it in a sack in 25 gallons of water in a barrel. Slake the lime in another vessel, adding water slowly to make 25 gallons of lime milk. Pour the two at the same time slowly into a third vessel, allowing them to mix thoroughly as they are poured in. Many orchardists now use only four pounds bluestone to make this mixture.

If there is not enough lime in the water it will burn the foliage. To test this, take a saucerful of the mixture and add a few drops of a solution of yellow Prussiate (ferrocyanide) of potash (one ounce to one-half pint of water). If a brown color appears, more lime must be added until no change takes place when the test is applied. Even the best Bordeaux may scorch the foliage and fruit if applied in damp weather.

## Arsenate of Lead

Arsenate of lead.....	1 pound
Water.....	40 to 50 gallons

It is unnecessary to use it stronger. It is more reliable than paris green. It is especially useful where there is much rain. It sticks well and does not scorch the leaves.

## Sulphur-Lime Wash

Sulphur .....	12 pounds
Good lime .....	12 pounds
Water .....	45 gallons

First slake the lime in the cooking vat. When slaked add the sulphur and about 10 gallons of water so that the mixture will boil easily. Keep it well stirred until boiling begins. Boil until the sulphur is completely dissolved, which usually takes less than an hour. Then add the rest of the water and the mixture is ready to spray. It may be used hot or cold. It should be poured into the spraying tank through a strainer. Salt, which was formerly added to this mixture, is wholly unnecessary. There are several ready-made sulphur-lime washes which give good results when properly diluted.

## Lye

Lye (potash) .....	1 pound
Water .....	10 gallons

## Paris Green

Paris green .....	1 pound
Good lime .....	1 pound
Water .....	125 gallons

Slake the lime in a little water and then mix in the paris green to form a thin paste. Strain the paste into the water to remove all lumps.

## Kerosene Emulsion

Kerosene .....	2 gallons
Whale oil soap.....	1/2 pound
Water .....	1 gallon

Dissolve the soap in the water by boiling, and add the suds boiling hot to the kerosene, away from the fire. The mixture is then to be agitated violently, preferably by pumping it back on itself with a force pump. After four or five minutes the mixture suddenly becomes creamy in consistence. If well made, the cream will stand for a long time without free oil rising to the surface. Unless otherwise stated, use one gallon of the emulsion to twelve gallons water in spraying. One quart of soft soap or one pound of laundry soap may be used instead of the whale oil soap.

## Whale Oil and Quassia

Quassia chips .....	8 pounds
Whale oil soap.....	7 pounds

Soak the chips twelve hours in eight gallons of water. Dissolve the soap in boiling water. Strain the quassia extract to remove the chips, and add the soap solution. Stir thoroughly and dilute to make 100 gallons. This solution is used almost exclusively for the hop aphid. It is quite as effective with or without the quassia against other species of aphids. Soap powders or laundry soap may be used in the same proportion for most aphids.



# IDAHO HORTICULTURAL ASSOCIATION CONVENES

**T**HE sixth annual convention of the Idaho State Horticultural Association this year was the most successful ever held. The attendance was not only larger, but the membership for 1908 was nearly doubled.

It was the unanimous decision of those present that the varied program was the most interesting and instructive ever presented.

One year ago this association secured an addition to our horticultural law giving the inspectors power to destroy all fruits offered for sale which were marked in any way to show they were or had been infested with the San Jose scale or codling moth, and the wary all through the convention was for better enforcement of our laws by our delinquent inspectors.

The president's annual address by Judge Fremont Wood of Boise was one of the ablest of the convention and fully up to his high standard of excellence. He found it necessary to score some of the inspectors very severely for the subterfuges employed by them rather than do their duty in the enforcement of the law.

A paper on the "Farm Orchard" was ably presented by A. McPherson of Twin Falls. He showed the value to the average farmer in planting a small orchard of the best varieties and how the care of it would repay him more fully in dollars as well as health than any other product of the farm.

Hon. Silas Wilson of Nampa, one of the foremost pomologists of our country, presented an entirely new subject to the convention in his paper on "Air Currents and Their Relation to Orchard Planting," and it proved to be a very interesting and instructive addition to the program.

A paper on "Fruits and Health," by Dr. B. F. Campbell of Payette, was very ably written and provoked many comments of praise.

Professors H. T. French, J. R. Shinn and J. M. Aldrich, all from the University of Idaho at Moscow, were of great assistance to the convention with their able papers and discussions.

Perhaps the most enjoyable as well as the most instructive part of the program was the discussion of the new law.

Mr. C. C. Eiffe of Fruitland made the opening address on "Review of Our Horticultural Law; the Past and Present." He charged the board of inspection as well as the inspectors with the non-performance of their duties, and said the main thing wanted was to make the sale of wormy fruit prohibitive for any purpose other than by-products.

The discussion which followed was participated in by C. H. Sargent and Michael Harris of Payette and W. H. Dorman of Caldwell, all well-known orchardists; Attorney M. J. Reibel of Payette, Professor J. M. Aldrich of the University of Idaho and a member of the state board of inspection, Charles P. Hartley, a prominent nurseryman of Emmett, and B. P. Shawhan, a progressive businessman of Payette.

The discussions were warmly received and the large audience present, including some of the inspectors, had a much clearer knowledge of the new law. With the possible exception of Professor Aldrich, a member of the state inspection board, who spent most of his time in defending the action of the board in trying to evade the execution of the law, they were heartily in favor of the more strict enforcement of the law.

The last evening's session closed with the usual banquet, given by the ladies of Payette to the members of the association, during which toasts were given and a very enjoyable time was spent.

The officers for 1908 are as follows: President, Judge Fremont Wood, Boise; vice president, Professor J. R. Shinn, Moscow; secretary-treasurer, F. E. Price, Payette; directors, Captain J. H. Shaw-

han, Payette, and Carl A. Davis, Mountainhome.

It was decided to hold the next annual convention at Caldwell and committees were appointed to make an effort to secure the largest display of fruits and flowers ever shown by the association.

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## SPRAYING NOWADAYS A PRIME NECESSITY

**Selection of a Suitable Outfit an Important Consideration—Recent Productions of Leading Manufacturers**

In beginning another season of fruit culture, growers are again taking up the ceaseless fight against the hordes of insects that menace their success year after year. A great number will spray this year for the first time; many who have used hand power outfits heretofore are now looking for higher and more effective pressure. In this connection comes very opportunely an announcement from The Deming Company of Salem, Ohio, that "The World's Best" line of spray pumps has been augmented by the addition of a power sprayer operated by an engine of two and one-half or three and one-half horsepower as preferred. The new machine is designed along the lines that have proven so satisfactory in The Deming Company's one and one-half horsepower outfit, the manufacture of which will be continued, so that the grower may choose the size best adapted to his work. Literature recently issued by The Deming Company will doubtless prove attractive to those who are interested in the subject of spraying and the development of appliances for carrying it on in the best manner.

## FRUIT CULTURE IN SPOKANE RIVER VALLEY

Continued from page 23

there can be made profitable results from many lines, and with the help of canneries for the overripe produce can carry on an independent farming business as can be found.

It is the ambition of those interested in the development of the irrigation of the Spokane Valley to see it produce the larger part of the needs of the market, as it is clearly seen what the keeping at home of this vast amount will mean, and it will certainly place the farming of the vicinity on a par with the mining and timber resources as a factor in Spokane's growth and development. This is what the business men now see clearly as the outcome of the irrigation business, but it is only a small item as compared with the view one can see in looking ahead, over this now comparatively barren stretch of land gradually unfolding into a picture of thrifty homes surrounded by fruitful orchards and plentiful fields. Thousands of families engaged in profitable work in this beautiful valley, surrounded as it is by its picturesque mountain scenery, all happy and contented and healthful in their farming occupation, and satisfied with the life of being part of a big, progressive city, and yet not quite in the midst of its strenuousness. This is the view which the application of water causes the magic lantern of time to cast upon the sheets of the future. This is the picture showing how the

seed of the irrigation enterprise was sown in the rich soil of the Spokane Valley and began to grow and bear fruit, and now bids fair to spread its new, prolific branches over all the once profitless and uninhabited area, causing it to bud forth with promises of plenty for all time to come. ◆ ◆ ◆

### Advantages of Folding Paper Berry Box

**T**HE patentees and manufacturers of the folding paper berry box believe it will supply a long-felt need of the fruit grower by supplying him with a package which will answer every purpose. It is easily set up in half the time it requires for the ordinary folding box. Among its advantages claimed for it are the ease of setting up, and the fact that there is no breakage, not one box in a thousand will be broken on account of the dryness of the material, as is so often the case with the wooden box; any child can set it up. The bottom will not sag, and berries will not bruise, because the box is so much smoother inside. ◆ ◆ ◆

The John Day, Oregon, country, which has been raising fine quality apples for some time in a limited quantity, will this year go into the business more extensively than ever. Many acres of trees have been set this spring and orchards already there improved.

## Hood River Fruit Land

Is a Better Investment than  
**A Gold Mine**

Large or small  
tracts for sale at  
reasonable prices

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First National Bank of Hood River

**J. W. WIEDRICK**

DAVIDSON BUILDING

HOOD RIVER, OREGON



# THE TRAINING AND PRUNING OF THE GRAPEVINE

**T**HE grape is probably the oldest of our domestic fruits. Very early in the history of the race, it is said, Noah "planted a vineyard, and drank of the fruit thereof." In most countries the grape grows wild, but is greatly improved under cultivation.

A grape vine is pruned in order to reduce the amount of wood and to keep the plant within manageable shape or bounds. A vine is trained to keep it off the ground, out of the way of the workman, and to so arrange the fruit that it will be exposed to light and air. In order to understand the pruning of grapes the operator must fully grasp this principle: "Fruit is grown on wood of the present season, which arises from wood of the previous season." In 1908 a shoot arises from each bud, and near the base of this shoot the grapes are borne, one to four clusters each. While every bud of the 1907 shoot may produce shoots or canes in 1908, only the strongest of these will bear fruit. The skilled grape grower can tell by the looks of his canes as he prunes in winter which buds will give rise to fruit-producing wood the following season. The stronger and larger buds generally give rise to the best results. But if the cane itself is very big and stout, or if it is very weak and slender, he does not expect good results from any of its buds. A hard, well-ripened cane, the diameter of a man's little finger, is the ideal size.

A second principle to be mastered is this: "A vine should bear only a limited number of clusters, say thirty to eighty." A shoot has clusters near its base. Beyond these clusters, the shoot grows into a long, leafy cane. An average of two clusters may be reckoned to a shoot. If a vine is strong enough to bear sixty clusters, thirty buds must be left at the annual pruning. How much a vine

should be left to bear will depend on the variety, distance apart of the vines, strength of soil, age of the vine, system of pruning and the ideals of the grower.

The Concord is one of the strongest and most productive of grapes. Twelve to fifteen pounds is a fair crop for a mature vine; twenty pounds is a heavy crop, and twenty-five is a very heavy crop. An average cluster of Concord will weigh from one-quarter to one-half pound. The vine may be expected to carry from thirty to sixty clusters, and the annual pruning will leave from fifteen to thirty buds.

Since the bearing wood springs from the new canes, it follows that the fruit of the grape is each year borne farther from the main trunk. Observe that the fruit of the wild vine is borne beyond reach, when they climb over thickets and trees. It is a prime object of the grape grower to obviate this difficulty. The third principle in grape growing is: "The bearing wood should be kept near the original head or trunk of the vine."

When one cane is sending out fruit-bearing shoots, another shoot is taken out from near the trunk to furnish fruit-bearing shoots for the next year, and the older cane is entirely cut away after the fruit is off. That is, the wood is constantly being renewed, and the new shoots which are to give bearing wood for the following year are called renews.

The three main principles of pruning should be repeated until one is thoroughly familiar with them, and if this is done there is little trouble. They are as follows:

First—"Fruit is grown on wood of the present season which springs from wood of the previous season."

Second—"A vine should bear only a limited number of clusters, say thirty to eighty."

Third—"The bearing wood should be kept near the original head or trunk of the vine."

Memorize these rules and follow them but little difficulty will be experienced.

## HORTICULTURAL MEETING AT GOLDENDALE

**T**HE Klickitat Horticultural Society held an interesting meeting at Goldendale, Washington, March 14. Owing to the inclemency of the weather it was not so largely attended as it should have been, but from the amount of interest manifested and instruction disseminated it was one of the best meetings that the society has held. A large display of Klickitat apples, pears and almonds was on exhibition and elicited much favorable comment on account of their fine quality.

Fruit Inspector Olsen made a very able and instructive address on spraying and pruning, and also answered many questions pertaining to these subjects. J. W. Gillenwaters, one of the leading fruit men of the county, made a very instructive talk on "How to Raise

a Better Quality of Fruit." He has recently sold his fine fruit farm on the Columbia River, and will make his future home in the Yakima country.

The Klickitat Development League appeared before the meeting and urged the members to subscribe for "Better Fruit." It is to be hoped that every fruit man in Klickitat County will soon become a subscriber to this excellent publication.

Klickitat County claims it has fruit land that is unexcelled anywhere in the state; that irrigation is not necessary, and that the yield is wonderful and quality unsurpassed. A great awakening is now taking place in the fruit industry of the county, and at one place 18,000 fruit trees and 10,000 grape vines are being planted this spring.

## ITEMS OF INTEREST FROM DIFFERENT SECTIONS

Twisp Valley, in Okanogan County, Washington, will soon be one great orchard, according to reports received from there. This is an irrigated section and water for the orchard will be taken from the Twisp River. A canal for this purpose has already been built and land on both sides of the river for a distance of ten miles is under irrigation. Much fruit was shipped from this section this year, and the increase in acreage means that it will be but a short time before many thousand boxes will be going to market from this point.

Roseburg, Oregon, was the place of meeting of the Douglas County fruit growers during the past month, and fifty enthusiastic members were in attendance. The array of speakers was an imposing one, among them being Professor C. I. Lewis and A. B. Cordley of the State Agricultural College, Secretary H. M. Williamson of the State Board of Horticulture, Commissioner A. H. Carson of this horticultural district, and County Fruit Inspector G. W. Riddle.

Ashland, Oregon, Fruit and Produce Association at its annual meeting last month demonstrated that it handled considerable fruit last year notwithstanding the fact that it has been hampered by the withdrawal of growers from its

ranks. At a subsequent meeting President Gillette made a strong plea for members of the association to stand together this year and also for those who had withdrawn to come back into the fold. Plans for extending the scope of the association and increasing its business were outlined by him, and it is believed that this year it will be stronger than for several years.

Whitman County, Washington, fruit growers recently organized a temporary association at Colfax by electing W. L. La Follette president and Professor Hornber secretary. The president was authorized to appoint a committee in each precinct to secure members, and a permanent organization will be formed as soon as the desired number are secured.

Cliffs, Washington, the new town on the North Bank Railroad, is the latest addition to the ranks of the many fruit growing districts in the Northwest. This is the town that has been selected as the end of the division on the new railroad, and 4000 acres will be planted to trees this year.

Grants Pass, Oregon, fruit growers held a lively meeting March 20. One of the matters taken up for consideration was that of labeling fruit boxes.

## SLOCOM'S BOOK STORE

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## Hood River, Oregon POSSESSES

**CLIMATE**—A desirable medium between the drier eastern and the more moist western conditions of the Northwest.

**SOIL**—Volcanic ash, rich in phosphates, and recognized as the best in the world for apples and strawberries.

## THE HOOD RIVER LAND EMPORIUM

has the only set of Land Abstract Books of that district, and makes a specialty of Real Estate, Abstracts, Conveyancing, Loans and Insurance.  
HOOD RIVER, OREGON



## Okanogan NURSERIES

We have not another fruit tree to sell this season. We have however, a fine line of roses, shrubs, shade trees, berries and grapes

OMAK, WASHINGTON  
OKANOGAN COUNTY

## COMMERCIAL SPRAYING

Nets from \$5.00 to \$50.00 per day. We have a special plan for assisting one reliable man in each county to build up a profitable business

Write for details of our plan, stating your experience and naming two references

American Horticultural  
Distributing Co.  
MARTINSBURG, WEST VIRGINIA

## PEACH TREES

Our stock is the finest we have grown in the last twenty-five years, a large proportion 6 feet and up and 5 to 6 feet grades—nothing finer was ever grown. We have all the leading commercial sorts including a heavy stock of Elberta; also a large well assorted stock of CHERRY, handsome, well rooted, 1-year and 2-year, including BING, LAMBERT, NAPOLEON, TARTARIAN, etc. APPLE, 1-year and 2-year, DELICIOUS, BLACK BEN, STAYMAN W., SPITZENBERG, NEWTOWN PIPPIN, etc. PEAR—Standard and Dwarf, PLUM, APRICOT, QUINCE, GRAPE, SMALL FRUITS, SEEDLINGS, SCIONS, ROOT GRAFTS, ORNAMENTAL TREES, SHRUBS AND CLIMBERS, ROSES, etc. Stark Fruit Book and Wholesale Price List free on request

STARK NURSERIES  
LOUISIANA, MISSOURI

## True to Name Nursery Offers to Planters

For fall, 1908, a choice stock of apple, cherry, pear and peach, including all the leading varieties adapted to this locality, with special reference to Yellow Newtown and Spitzenberg Apples, Lambert, Bing and Royal Ann Cherries, Buere D'Anjou and Comice Pears, Foster, Elberta, Salway, Early and Late Crawford Peaches. All buds and scions selected from the best bearing orchards in Hood River. Price list on application

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FINE PLANTS OFFERED

Our plants are looking fine, grown on scientific principles from thrifty young stock, with an aim for great productiveness

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R. F. D. No. 1, Portage, Washington

Heretofore the boxes have been stencilled. This has not been satisfactory to the association, and Charles Meserve, the energetic secretary, was authorized to secure designs for lithographs to be used on boxes during the coming season. The subject of winter and summer spraying was also taken up and observations will be made by experienced orchardists this spring in order to determine the proper dates to spray for the codlin moth. The threatened invasion of pear blight in that district also received the attention of the meeting and measures will be taken to try and keep it from securing a foothold there. H. D. Eisman, fruit inspector for Josephine County, received recognition at the hands of the meeting for his efficient services, and other matters of importance were transacted.

Puyallup, Washington, berry growers are very much interested in experiments being made by Professor W. H. Lawrence of the experimental station near there, which are expected to result in abolishing anthracnose which has been making inroads on the berries in that district. It is thought that some means will be devised of remedying the trouble and save growers there a considerable loss.

Kennewick, Washington, which like other districts sometimes experiences late spring frosts, will this year try smudging with crude oil, should there be any danger of damage to their early fruit crop there. So far the finest kind of spring weather has been obtaining at Kennewick, and it is not expected that it will be necessary to resort to this system. ♦ ♦ ♦

### This Invention Simplifies Farming

One of the most valuable inventions from the standpoint of the farmer is a new harrow which has just been put on the market, which, it is claimed, actually reduces the labor of preparing the seed bed by one-half.

This really wonderful agricultural implement is called the 2-in-1 Harrow and is manufactured and sold direct to the farmer by the Naylor Manufacturing Company of La Grange, Illinois. Mr. Naylor, the superintendent and general manager, is a practical farmer of many years' experience.

This harrow combines in one implement the virtues of both a spring-tooth and spike-tooth harrow, and the construction is such that all the weaknesses of both the spring-tooth and spike-tooth have been overcome, yet this new harrow has all the virtues of either the spring-tooth or spike-tooth used separately.

Where in former years it was necessary to go over new plowing with a spring-tooth harrow to break up the sods, following with a spike-tooth to complete the process, this new harrow does it all at one operation, thus saving half the time of men and team. This harrow has also developed many other features in actual use, which are highly approved by agricultural experiment stations and all who have used it.

Now that farm labor is scarce and hard to obtain, anything which will cut in half the labor of preparing the seed bed is bound to appeal most strongly to farmers all over the country and we predict enormous sales for this really wonderful invention.

We understand that this wonderful labor saver costs little, if any more, than the inefficient single harrows of either the spring-tooth or spike-tooth variety.

# 75,000

## SPITZENBERGS

Of grafts and buds taken from the famous Stewart orchard, President of Washington State Horticultural Society.

SUNNYSIDE NURSERY  
SUNNYSIDE, WASHINGTON

## Yakima Valley Nursery, Inc.

W. D. INGALLS, Manager

Oldest Yakima Nursery  
Largest stock. Second  
to none in the State

North Yakima, Washington  
R. F. D. No. 4

CAPITAL \$50,000

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A REPUTATION TO SUSTAIN

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Reliable Nursery Stock

ALL STOCK BUDED FROM BEARING TREES  
FRUIT AND ORNAMENTAL

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"The Old Reliable"

## Albany Nurseries

Incorporated

Albany, Oregon

Offer a fine lot of general nursery stock for the spring planting. Send for catalogue. It is free for the asking

SALESMEN WANTED

## CO-OPERATION IN THE BUSINESS OF CANNING

WHEN it is proposed to form a canning company in a town the first thought of most people is to organize a co-operative concern. So let me say a word just here about co-operation. It has no place in the canning business. It is a sophistry, a delusion, a snare. However successful it may have proven (if it has) in the handling, shipping and marketing of fruit, it falls down when



JOHN S. HUGHES

applied to canning. I do not know of a single instance of a successful co-operative canning plant of more than three years' standing.

Just one man is responsible for the success of every co-operative enterprise. That man gives brains, time, labor and even capital, which in his own business would yield big profits, freely to the co-operative company. He receives in pay therefor a meager salary, often none, an abundance of criticism, misunderstanding and abuse. By the end of three years he gets tired. Then the men who know it all step in and run the business. It soon makes sounds like an aggregation of Kilkenny cats. And at last there is the Devil to pay.

In every co-operative company there is just one man who is capable, willing and self-sacrificing; about three who are just as capable but not self-sacrificing; about five who think they know it all and know nothing but how to criticise and abuse, and the great mass who don't care.

Another reason why co-operation in canning is not feasible is because it requires considerable cash or credit to operate a canning plant, and a co-operative company rarely has the former and never the latter. John S. Hughes.



THOMAS WITHYCOMBE, the well known horticulturist, has a very fine quality of walnut land which he is planting to grafted walnuts and peaches, and taking care of for owners for six years at a very moderate price per acre. Those who are interested can get his address from his advertisement on another page.

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*Best of Quality*

McREYNOLDS &amp; Co.

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Established 1863 by J. H. Settlemier  
420 Acres Devoted to Nursery Purposes

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FRUIT TREES, SHADE TREES,  
SMALL FRUITS, ORNAMENTAL PLANTS,  
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THE WOODBURN NURSERIES have been in existence forty-four years with only one change of ownership. Tree growing is our profession and our stock is not the result of experiments, but knowledge.

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Apple, Pear, Cherry, Peach and Shade  
Trees. Small Fruits and Shrubbery

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3 to 6 feet, \$4.00 each

Photo of our Mammoth tree, with  
samples of winter foliage, 25 cents  
Six trees to one address, limit

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Also fine stock of candies

ALL MATERIALS  
FOR MAKING SPRAY

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CHOICE TRACTS TO OFFER

At popular prices and sell them strictly on their merits.  
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## SOUTHERN OREGON FRUIT LAND

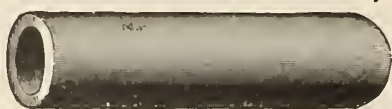
One hundred and fifty-seven acres No. 1 Rogue River Valley fruit land; 18 acres under cultivation, 17 acres more cleared, balance "cut over" timber land; 115 acres nearly as level as a barn floor, on county road, two miles from Wilderville, ten miles from Grants Pass, one-half mile from school, one-fourth mile to fine trout stream.

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**J. E. MURPHY**

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\$1.50 per dozen; \$6 per 100; \$40 per 1000.  
Plant now and get returns next winter.

Pedigreed plants only. Berry plants all sorts

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Hood River Land Emporium,  
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East Hood River Fruit Growers Union,  
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**APPLE LAND**

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PRICE \$16 F. O. B.

Is the one to use in all feet wide, very easy to which prevents striking No hoeing of trees where used on it in orchard, fern, pink, sorrel, oats, thistle it has no equal.



In using this implement the driver will stand in center of board, over knives, and to guide it will step to right or left, as occasion requires, and if anything should catch or gather on the knives the driver will step forward on draft board, tilt the handle forward, raising the knives, so that anything that had gathered on them may free itself. Keep all of the burs tightened and should any of the knives get bent out of shape force them back to place without removing them from the frame. Manufactured by

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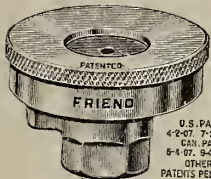
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Experience has fully demonstrated that a spray nozzle today, in order to best meet the strong peculiar requirements of the up-to-date fruit grower, must possess the following principles: It must be of sufficient capacity in order to do away

entirely with the usual cluster of fine nozzles. Its aperture and orifice must be sufficiently large to permit the passage of sediment. It must be free from sensitive, internal, movable parts that operate nicely when new, but stick when corroded. It must have no stems, horns or hooks to catch in the limbs; must not drip or drizzle. It must be so constructed as to insure long life, especially to prevent the boring effect by the heavy solution under pressure into the face of the body of the nozzle. It must produce the so much desired fine spray.

Many of the leading manufacturers are endeavoring to produce such a nozzle. Fruit growers should be cautious as to what they buy. The manufacturer should do the experimental work. We illustrate herewith a nozzle which is the original of this type. It is covered by several strong patents with others pending. It is the result of years of experimental work, costing thousands of dollars to perfect it. Thousands of the one pictured were used last season with best results. Its manufacturers and holders of the patents "are reliable."

Fruit growers may obtain this nozzle, postpaid, by remitting \$1.55 to "The Friend" Manufacturing Company, Gasport, New York, manufacturers of complete hand and power spraying outfits. Their situation as it is in the heart of the Niagara fruit district; pioneers in the art as they are; building every part of their machines as they do, makes it possible for them to give fruit growers more for their money than any other manufacturers. They have a new ball shut-off which keeps the hand dry, price \$2.20, postpaid. Good inducements are offered to live agents. Their new illustrated catalogue is free.

WHOLESALE

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**THE DALLES NURSERIES**

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**TREES**GRAPE VINES & SMALL FRUITS  
EVERGREENS, ROSES & SHRUBBERYREMEMBER—OUR TREES ARE GROWN STRICTLY  
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If in any way bothered by that most important question of tree spraying, send for a copy of our valuable treatise on the subject

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Himalaya Blackberry PlantsPrice \$7.50, \$5.00, \$7.50 per 100  
Strong plants; March 25

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Manual Training, Military Discipline, College Preparation. Boys of any age admitted at any time.WRITE FOR  
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No mud nor snow. Three hundred and sixty-two feet altitude. Five hundred dollars monthly for life by owning a forty acre Kennewick-Finley fruit ranch. Write for 1908 price list of three thousand acres at seventy-five dollars. Concrete building and business for sale right

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**STENCILS**AIR CUSHION RUBBER  
STAMPS, RUBBER TYPE,  
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Take advantage of the low rates to the Pacific Coast and come to White Salmon, Washington. The finest fruit country in the world. Our Newtown and Spitzenberg Apples command the highest prices in the world's markets. Our Strawberries are the earliest in the northwest. The very best fruit land \$25 per acre. Ten acres make a comfortable home and a good living for any family. Located across the Columbia river from Hood River, Oregon.

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Try a pair of American Lady  
\$3 & \$3.50 Shoes or American  
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Raw land equally desirable, adjacent to this vineyard can now be bought for \$25 per acre. If planted to Tokay Grapes in six years this land will be equally as valuable

THIS WOULD MEAN AN INCREASE OF 10,000 PER CENT

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Has again demonstrated by the great crop of fruit now set for 1907 that this is the surest in its crop production of any part of America. This fact makes this district look good to the trained horticulturists of all other sections of the Northwest. When it is conceded that orchards approaching the bearing period here are held at less than one-half the figures demanded for similar lands in other districts yielding less net profits than here, it should impress the readers of "Better Fruit" that now is the time to invest in this favored valley, with its regular crops and famous good climate. The homeseeker will get the benefit of more than twenty years' experience in the fruit business by dealing with the

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Largest city in the Rogue River Valley and climatic capital of Southern Oregon. Ideal home town. Unexcelled as a fruit region. Hill and valley fruit lands offer splendid inducements to intelligent and industrious fruit growers.

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Make Our Bank Your Headquarters When in Hood River

Correspondence Invited

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## FAMOUS HOOD RIVER Strawberries

THE FINEST BERRY  
ON EARTH AND  
THE BEST SHIPPER

LOOK GOOD, BUT TASTE BETTER

*Fancy Pack Guaranteed*

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RELIABLE DEALERS IN  
FRUIT LANDS  
OF THE YAKIMA VALLEY

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Are the best for fruit boxes. They are imitated because we advertise them and our product has an established reputation. The imitator has *no reputation* to sustain. *We have.* You never see an advertisement of the imitations. They are *always offered on our reputation.* It stands to reason that our nails are the best, otherwise we could not afford to advertise them. When you ask for PEARSON'S nails see that you get them. *Don't be imposed upon.*

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Send your orders to a house that understands Western conditions, and you will get satisfaction.

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Gentlemen: Seeds bought of you the past few years have given good satisfaction. Please fill and ship enclosed order and oblige.

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Our new 100 page Annual Seed Planter's Guide tells all. It's up-to-date and full of good things. Ask for Book No. 200

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THE only pruner made that cuts from both sides of the limb and does not bruise the bark. Made in all styles and sizes. We pay Express charges on all orders. Write for circular and prices.

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Write or call on

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PURE PARIS GREEN for Chewing Insects

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Put up in convenient sizes, and at RIGHT PRICES

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Two thousand acres of level and fertile land in one entire body in wild hay, will be under Government water system, nicely situated for subdivision; a good speculation. Price for entire tract, \$15.00 per acre. Two hundred and seventy acres fruit or alfalfa farm, mostly Rogue River bottom land, about 100 acres already in alfalfa, which will raise four crops a season; good buildings; 200 acres under ditch owned by the place, with plenty of water. Price, per acre, \$60.00.

Seven hundred-acre farm on Rogue River, 250 acres in cultivation, 40 acres in alfalfa; large and good buildings and right on the Southern Pacific Railroad. Price for the entire tract, \$30.00 per acre.

We have many thousands of acres of fertile lands for sale at reasonable prices

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Seventy-five varieties. If you want over ten thousand plants we make you a very low special price. Big forty-eight page catalogue free

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**My 2-in-1 Harrow Will Do the Same Work Better in Half the Time—or Don't Keep It. I Take All the Risk**

What's the use going over your fields twice when once over with my Combination Spring and Spike Tooth Harrow will give you a better seed-bed? Think of it—an actual saving of half the time of man and team in preparing your ground. It ought to be mighty interesting to you if it's true, now that hired help is so scarce—and you can prove at my risk that it is true.

### One Man Can Do TWO MEN'S Work

You see, my 2-in-1 Harrow turns up the earth and pulverizes it thoroughly at one operation. You can go once over the furrows with my 2-in-1 Harrow and follow right along with the seeder—thus getting your seed in with no more work and no more time than you now spend harrowing. The book I'll send you tells Why and How.

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Figuring a low wage for man and team, my 2-in-1 Harrow will save you over \$3 every day you use it—so that it will actually pay for itself in a week—EASY. After that, for years and years, it will pay you better interest than money in a bank. Every farmer who has one of my harrows is en-

thusiastic. You ought to hear them praise it—just as you will after you've tried it and seen what a time and money-saver it is.

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Remember that I hold myself responsible and liable for every statement I have made—and if my harrow doesn't do all I say—or if you just don't like it after a reasonable trial, send it back and get every cent you've paid. If you'd rather have your money than my harrow—it's yours by next mail.

### Big Saving to First Buyer in Each Locality

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NAYLOR MFG. CO.  
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If you're a Live Dealer and want a Quick Seller—write me.

Study the picture—see how it works

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Royal Ann, Bing and Lambert Trees and also a complete assortment of Spitzenbergs, Newtowns and other fruit trees

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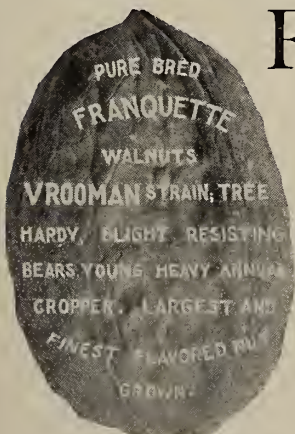
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**J. J. BUTZER**

190 Front Street

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## THE VROOMAN PURE STRAIN Franquette Walnut

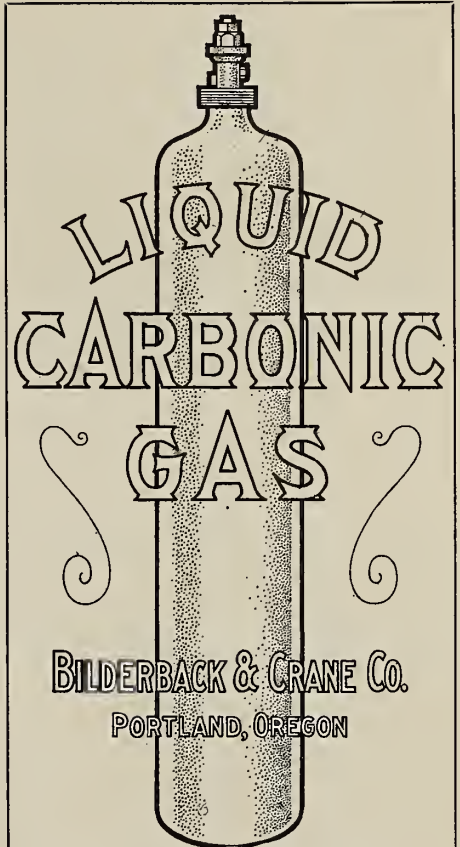


First Class Salesmen Wanted

**OREGON NURSERY COMPANY, SALEM, OREGON**

Plant no other. If you want to know WHY, it's because there's no other variety that possesses so many GOOD QUALITIES. Don't simply doubt—investigate for yourself. We have a nice stock of one-year-old trees of this variety and strain for immediate shipment. These trees are all grown from specially selected nuts, grown on GRAFTED TREES. We not only recommend this Vrooman Pure Strain Franquette Walnut, but GUARANTEE it to be just as represented. Accept no variety that is labeled "just as good," for there is none. Remember, we are sole propagators of this particular line of Walnut trees. Ask for free literature describing it. Inquiries cheerfully answered

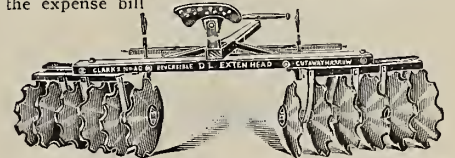
WHEN WRITING ADVERTISERS MENTION BETTER FRUIT



Saves the labor of one man in spraying and does better work

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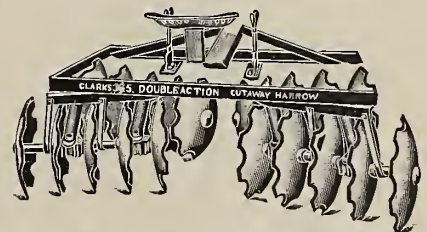
For orchards and fruit growing generally, give every one the greatest satisfaction. Cuts down the expense bill



The Two-Horse Single Action Cutaway. Best orchard or farm harrow made. Several sizes.

One-horse size a dandy

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GENERAL WESTERN AGENT

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## MT. HOOD HOTEL

Trains stop directly in front of  
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Automobile Service Daily for  
Cloud Cap Inn During Months  
of July, August and September

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We have a magnificent assortment of Fruit Trees, Grapevines, Roses and Ornamental Stock.

Let us figure with you on your requirements in Walnuts, either in grafted or seedling trees.

Write for illustrated Booklet on Burbank's latest creations. Santa Rosa Plum, Rutland Plumcot, Paradox and Royal Walnuts.

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of all kinds can be made a source of big and sure returns to the grower who will take the trouble to look into the vital subject of scientific fertilizing and the value of

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which insures full-sized, highly-colored and finely-flavored fruit.

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Seattle *THE HASSELL Co.* Portland  
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PURE SECOND GENERATION STOCK of

MAYETTES AND  
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SELECTED BY ME DURING MY RECENT VISIT TO FRANCE

First-Class Yearlings

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Specialist in Nut Trees and Fine Ornamentals  
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In Southern Washington, opposite Hood River, Oregon, and grow rich. The country that grows the highest priced apples and strawberries in the world's markets. Apples have taken prizes in competition with Hood River fruit. It has the earliest strawberries at the biggest prices along the Columbia River. E. Peck sold \$1200 from four acres of strawberries; R. D. Cameron sold \$2000 from two acres of apples. A mild climate pure water. Land is cheap yet but rapidly growing in value. The Mecca of opportunity for investment or a beautiful home.

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## The Best and Cheapest

When Arsenate of Lead came into use three years ago it was widely advertised as a spray that would kill the worms and never burn the foliage. This statement was true in many dry interior valleys, but in our foggy coast sections there has been serious injury by burning.

We guarantee our BEAN SPRAY ARSENATE OF LEAD to contain not less than 12 per cent Arsenic Oxide, so it is SURE TO KILL; and not over 50 per cent of water, instead of the customary 52 per cent to 55 per cent, which gives the MOST FOR YOUR MONEY, and at the same time it is an "ortho" or NEUTRAL LEAD and CANNOT BURN even the most delicate foliage. We are pleased to submit the following to verify our statements:

### OREGON STATE EXPERIMENT STATION.

Office of C. E. Bradley, Assistant Chemist.

Corvallis, Oregon, March 21, 1908.

The Bean Spray Pump Company, San Jose, California—Gentlemen: I herewith submit analysis of the sample of your lead arsenate which Professor Cordley received from you some days since:

Moisture .....	42.17 per cent
Total lead oxide (PBO).....	42.04 per cent
Total arsenic oxide (AS <sub>2</sub> O <sub>5</sub> ).....	12.83 per cent
Soluble arsenic oxide.....	0.17 per cent
Soluble impurities .....	.96 per cent
Insoluble impurities .....	2.00 per cent
	100.17 per cent

Your guarantee of not less than 12.00 per cent arsenic oxide and not over 50 per cent water is thus substantiated by our analysis. Our results also show this to be a neutral or ortho arsenate. Very truly yours, C. E. BRADLEY.

Notwithstanding the fact that we have a better and a stronger Arsenate of Lead than ever before the PRICE IS LOWER. Write for quotations or send in your order if in a hurry. You will get the same price either way—and prompt shipment, freight paid if you desire.

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## BEAN SPRAY PUMP CO.

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## The Codling Moth

and all leaf eating insects are effectually destroyed by

## Swift's Arsenate of Lead

Ordinary rains will not wash it off. No matter how strong it is used, there is absolutely no danger of burning or scorching

*Swift's Arsenate of Lead has Stood the Test of Time It is the Best*

The manufacturers, The Merrimac Chemical Co., of Boston, Massachusetts, have by far the largest and most complete plant in the world for the production of Arsenate of Lead. Their long experience in its manufacture, together with their accumulated knowledge of the needs of fruit growers enables them to turn out a product more uniform and dependable than any other and *far superior* to ordinary commercial Arsenate of Lead

Use "The Old Reliable Brand"

*No Other is so Good*

*It Guarantees Your Crop*

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Distributors for Oregon and Washington





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We make a special feature of  
apple and pear land

## Southern Oregon Investment Co.

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Our Newtown Pippins are fine quality,  
keep better, and bring the highest price.  
Pear orchard net yield \$500 per acre.  
Land finely located \$30 per acre and  
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If you buy land in Umatilla  
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Disc Harrow Extension for  
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When you want any kind of Orchard Tools  
come to me and get the BEST

# GRASSELLI'S ARSENATE OF LEAD

For the Destruction of the Codling Moth and All  
Leaf-Eating Insects, Use Grasselli's Arsenate of Lead



CODLING MOTH

Grasselli's Arsenate of Lead is manufactured only by The Grasselli Chemical Company, established 1839, General Offices, Cleveland, Ohio. When applied, ordinary rains will not wash it off. It is not injurious if applied unskillfully or in too great quantities. Grasselli's Arsenate of Lead can be used successfully against all leaf-eating insects, including the Codling Moth, Canker Worm, Elm Leaf Beetle, Potato Bug, Gypsy and Brown-tail Moth, etc. Grasselli's Bordeaux Mixture—a preventive of all fungous diseases. Grasselli's Bordeaux-Lead Arsenate Mixture—an insecticide and fungicide combined in one effective article. Write for descriptive booklet, giving information how and when to spray.

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ORCHARD AND GARDEN TOOLS  
A SPECIALTY

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## STRAWBERRY PLANTS

*That pay to plant are the kind we grow*

We have for this season the largest acreage of plants we ever grew. We have had unusually favorable weather and never grew such a fine lot of strawberry plants. Our supply consists of at least ten million plants of all the leading varieties both old and new. We have shipped a large number of plants the past two seasons to the Northwestern States that have always given satisfaction. We are prepared to fill orders for any amount. We also grow Raspberry, Blackberry, Dewberry and all other small fruit plants, the quality of which is unsurpassed. If you want plants now, write for prices, stating your wants. Our new catalog will be ready to mail about January 1. It is FREE, write for a copy now.

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On White Salmon Side  
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*A snap, must sell at once*

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*Famous for its APPLES, PEACHES,  
GRAPES, MELONS AND CLIMATE*

THE natural home of the Spitzenberg and Newtown apples. Rogue River Peaches have led the United States for the past three years in the highest price in the New York market. No peaches of the South excel those of Rogue River, and trees are healthy. Grapes perfection in color and flavor and the best of shippers, and growers have more orders than they can fill. Rogue River cantaloupes, water-melons and cassabas, none better and big money makers. The Grants Pass Fruit Growers Union gets the highest price for fruit, and the Southern Pacific gives terminal rates on shipments East. Climate the perfect medium between arid California and webfoot Oregon. No storms or winds to injure fruit crop. Almonds and figs ripen perfectly and palms grow in the yards. Land yet cheap but will double in two years. Now \$5 to \$100 an acre in small and large tracts, some on easy payments. American community and good schools, rural mails, telephones, etc. Full information by addressing CHARLES MESERVE, Grants Pass, Oregon, Seller of Real Estate in All Parts of Rogue River Valley. References by permission: Grants Pass Fruitgrowers' Union, First National Bank of Southern Oregon.

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MAKES

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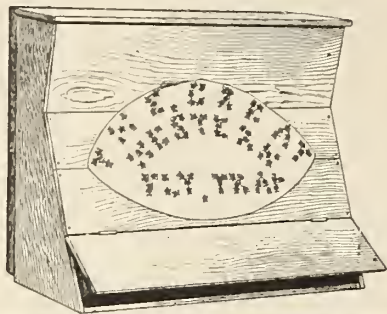
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## INSECT TRAP



On the market that has ever been known. It will successfully catch the pestful yellow jackets, codling moth, army worm flies, nearly all insects that inhabit the orchard as well as the common house fly. Just bait the trap with crushed fruit and set it on a stump or dry-goods box in the orchard and you will get them. This trap has won first prize wherever shown at a fair. You will be surprised to see the amount and kinds of insects this trap will catch

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## Lewiston Orchards Fruit Tracts

WHICH PAY \$250 TO \$1000  
PER ACRE PER YEAR

In a district which has been producing apples, peaches, apricots, cherries and European grapes with enormous profit for more than twenty years.

Unusual residence, social and educational advantages, mountain water piped under pressure to each home, telephone, electric lights, grocery deliveries, within twenty minutes drive of all the facilities of a city of 8000 people, with two daily papers, churches, theatres and a normal school.

Twenty per cent of purchase price and long time payments.

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*Health, General Information, Work in the Shade, Maps, Plats and Circulars free*

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We have for fall and spring delivery a full line of absolutely true to name and free from all pests all the leading varieties of

Apples, Pears, Cherries, Prunes,  
Plums, & Small Fruits of all Kinds

We invite inspection at any time  
Prices furnished on application

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EASILY DETACHED  
ALWAYS READY FOR ANY  
WORK IN ANY CLIMATE



**THE "New-Way" POWER  
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IS EQUIPPED WITH THE FAMOUS

**"NEW WAY" AIR COOLED ENGINE**

GASOLINE  
DISTILLATE  
OR  
ALCOHOL  
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Carries high pressure without the usual vibration and strain, and is the most practical durable and economical machine ever built for spraying. Use your own running gear if you prefer. Write us today for Spray Catalogue No. S-8



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PLOW CO.**  
PORTLAND, OREGON





*Sir:*

*Land costing the owner  
\$30, paid last year over  
\$500 in cherries.*

*Thousands of acres avail-  
able that will do as well  
and better.*

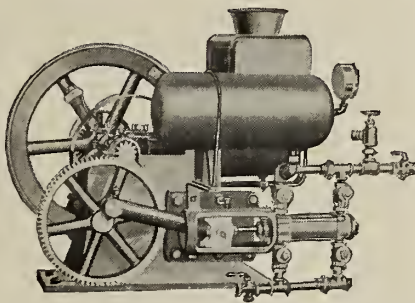
*Let us put you next.*

*Write our Dep't 7 for  
facts about Lane County.*

*Yours truly,*

*Eugene Commercial Club  
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## OUR "NEW PEERLESS"



Our "New Peerless" Engine Sprayer is the simplest as well as the highest grade machine ever built for spraying purposes. The pump and all its connections are brass. No other manufacturer attempts such construction. We furnish this outfit mounted or not as desired. Get our

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Where the color and keeping qualities of the fruits raised cannot be excelled anywhere in the world. **GOVERNMENT IRRIGATION** is the best irrigation system possible. We have a large list of excess lands, under the Government project, that must be sold, and the prices and terms are in reach of the man of moderate means. **OKANOOGAN FRUITS** won a gold medal at the Lewis and Clark Exposition held at Portland, Oregon, in 1905. We also took nineteen prizes out of twenty-three varieties of fruit exhibited at Spokane Interstate Fair in 1907.

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## Winter Apples Grow

TO PERFECTION IN THE

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UNDER OUR BIG RIVER CANAL



APPLE ORCHARD



OUR CANAL

You can pay for your land and support your family while the trees are growing. We have the markets. Ask for information. Just opening a new tract. Easy terms. A sure winner

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## Niagara Lime and Sulphur Solution

For San Jose Scale, and Scale Insects or Bark Lice, Aphis and Woolly Aphis, Leaf Curl of Peach, Moss, Mildew and all pests for which Lime and Sulphur has been found a remedy. Niagara is the only spray made which is tested and has that test marked on every barrel. It is a perfectly made, clear, highly concentrated liquid, capable of being diluted with eleven times its quantity of water for San Jose Scale. The following are a few of the many who are using or handling Niagara because it is the best:

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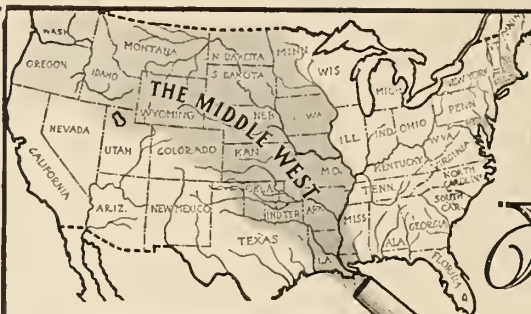
**OREGON SPRAY  
& GAS COMPANY**

Portland, Oregon



## FRUIT GROWERS

Are you spraying? Getting best results? Have you tried the Dust method? If not you will do well to heed the opinion of those about you. This is past the experimental stage

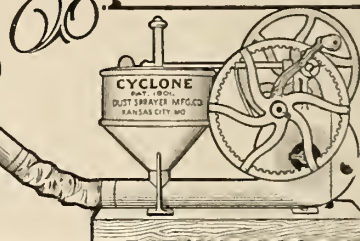


For Full Information and Catalogue  
Write to

**Morgan & McKaig**

Distributors for the Northwest  
NORTH YAKIMA, WASHINGTON

Many hundreds of progressive and successful fruit growers in all parts of the world and nearly every fruit growing district in Washington, Oregon, Idaho and British Columbia have used the Dust Sprayer with success the past year



## A Trip to the Coast

Is incomplete without a ride  
on the

## Mt. Hood Railroad

By Mountain Streams, Apple Orchards  
Virgin Forests and Snow  
Capped Peaks

Connects with O. R. & N.  
at Hood River, Oregon

## Stanley-Smith Lumber Co.

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## LUMBER

Lath, Shingles, Wood, Etc.

Hood River, Oregon

## Stranahan & Clark

DEALERS IN

Commercial Fertilizers  
Land Plaster, Lime  
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Hood River, Oregon

## Spraying is Crop Insurance

Take out a protective policy on what you grow, by investing in a Deming Sprayer—most practical and successful spraying machine on the market. Deming Sprayers put money in grower's pockets. Cultivation and fertilization are all right; but to have mature and "bumper" crops, you must spray.

## DEMING Spray Outfits

include every type of machine that any grower wants, from the "handy" hand-pump to the big Power Sprayer for the hundred-acre orchard.

Whether you are a little grower or a big one—a suburbanite or a country gentleman—you need a "Deming."

Nineteen Eight Catalogue and "Expert Testimony" give the "Why and Wherefore." Write for them—free on request.

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The crowning event in the world-famous voyage of the America battleship fleet will be the rousing welcome it receives in San Francisco. From the hour the sixteen big men-of-war plough through the Golden Gate on May 5 until the close of the grand review on May 8 every moment will be filled with stirring and historic events

## The Southern Pacific Company

(LINES IN OREGON)

Will make a low round trip rate for this occasion of one and one-third fare.

Round trip rates from the principal cities are:

PORTLAND . . . . .	\$25.00	EUGENE . . . . .	\$25.00
OREGON CITY . . . . .	25.00	ROSEBURG . . . . .	22.10
SALEM . . . . .	25.00	GRANTS PASS . . . . .	18.10
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Tickets will be on sale at Southern Pacific points May 2 and 5

## FINAL RETURN LIMIT IS TWENTY-NINE DAYS

This will allow ample time to see in detail the rebuilding of a great city — San Francisco. To visit the many points of interest in and around the Bay City, and make side trips at pleasure in Southern California. Any of our agents will furnish descriptive matter of California, rates and make sleeping car reservations, or you may address

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LANDS OWNED BY PRIVATE  
INDIVIDUALS AND LAND COMPANIES  
LANDS IN IRRIGATED DISTRICTS  
BUSINESS AND INDUSTRIAL  
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## Northern Pacific Railway

Write to  
**C.W. MOTT** General Emigration Agent,  
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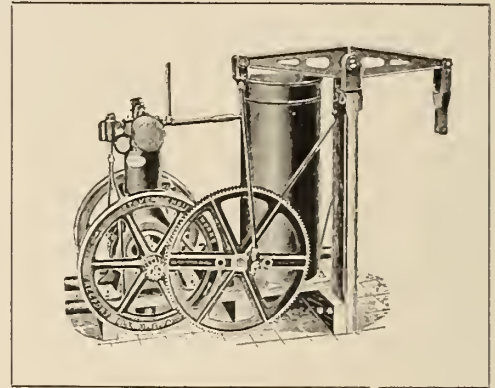



**YAKIMA VALLEY  
RED  
APPLES**  
YAKIMA, WASHINGTON





# STOVER GASOLINE ENGINE



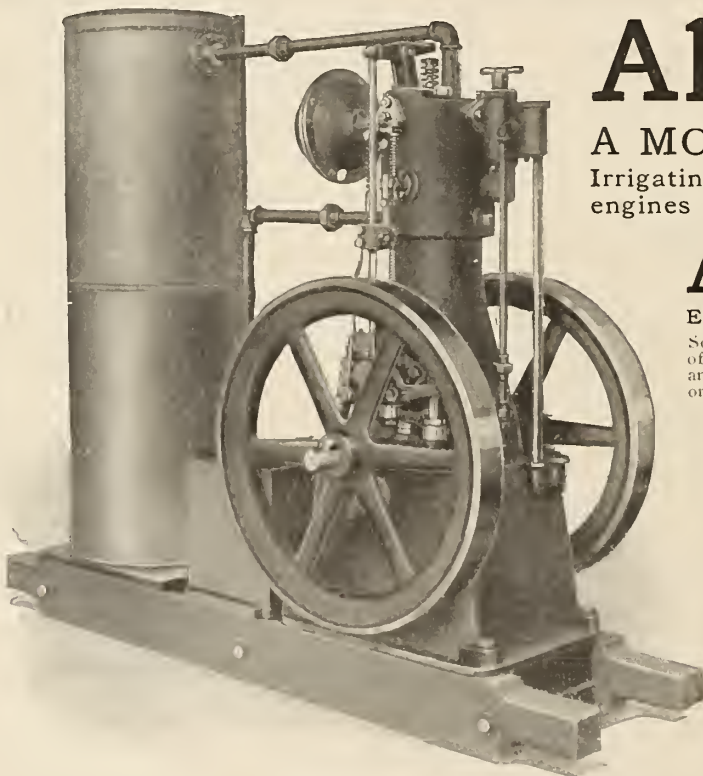
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Water for domestic use, for sawing wood, grinding feed and all the varied uses. *It has no superiors and few equals.* We carry a large stock of extras and repair parts to take care of you in case of accident. *This feature is worth \$ to you*

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## Alamo Engine

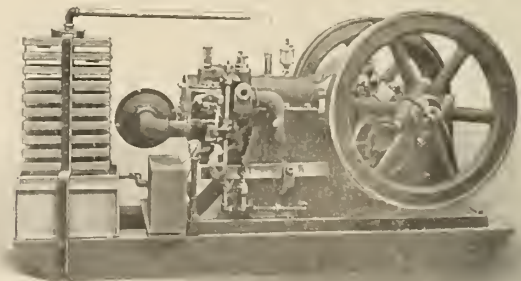
A MODERN DISTILLATE ENGINE

Irrigating, spraying and farm work. Special portable engines for hay press duty. See others but not until you see us

## Alamo Gas Engine

Easiest started, smoothest running, most durable, least fuel required

Some engines require a wizard or mechanical expert to get any work out of them. The Alamo is easily operated. Its mechanism is readily mastered, and any bright boy or man can run one. It is the most economical engine on the market, suitable for every kind of farm work. Sizes one and one-half horsepower to fifty horsepower



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**BEEMAN-SPAULDING-WOODWARD CO.**

MANUFACTURERS' AGENTS

71 Front Street, PORTLAND, OREGON



# THE DALLES, OREGON

## ANNUAL OUTPUT

Choice Apples, Plums,  
Peaches, Apricots and  
Strawberries shipped  
in car lots.

40 cars Melons.

40 cars Prunes.

10,000 cases Cherries.

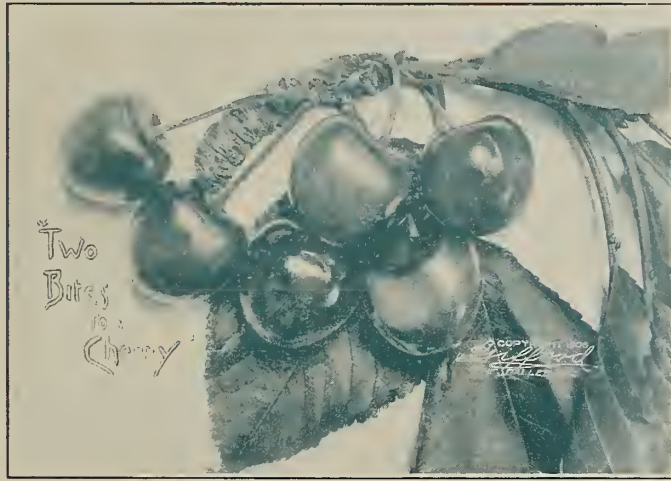
40,000 Cherry Trees  
planted during the last  
two years.

Two canneries in oper-  
ation.

450,000 barrels Flour.

3,000,000 pounds of  
Wool scoured.

30,000 cases salmon.



Early vegetables of all kinds put on the Portland market  
one to two weeks ahead of any other Oregon points

The county seat of Wasco County, is a thriving wide-awake city of 5000 inhabitants, located on the Columbia River with two through line railroads, one on either side of the river. The city boasts of its fine streets and beautiful homes and is proud of its great variety of resources. 3000 horse-power electric plant operating flouring mills, planing mills, box factories machine shops, etc., and endless supply of water power within easy reach. The finest country in the world for air seasoning and wood manufacturing.

*The Columbia River Scenery and Eastern Oregon Climate is Unequaled in the World*

For Further Information Address

THE DALLES BUSINESS MEN'S ASSOCIATION

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Yes, what's the use of working, spending money and time growing a fruit crop and then neglecting the most effective marketing system?

*If you are not a Produce Reporter member you are at a disadvantage—losing opportunities and money.* Many Oregon and Washington growers and shippers belong to this national organization. We will give you their names and you can ask them whether it pays or not. It won't cost you only two cents to write us. Don't think because our headquarters are in Chicago that we don't know what you need and cannot furnish it. If we help other shippers in your vicinity why not you? You cannot be so large or small that you don't want to make more money. You are behind the times, *and unfair to yourself*, if you do not investigate. That's all

## PRODUCE REPORTER CO.

34 SOUTH CLARK STREET

CHICAGO, ILLINOIS



THE CALL OF OREGON IS TO THE SMILING, SCENIC, PRODUCTIVE HOOD RIVER VALLEY

# HOOD RIVER ORCHARDS PRODUCE BETTER FRUIT

AND PAY A LARGER PERCENTAGE ON INVESTMENTS  
THAN ANY OTHER FRUIT LANDS IN THE WORLD

Plant your money in Hood River Valley. It will bear golden returns. Get results while you are young. Don't wait a life time. Will a two-year-old tree bear big apples like this where you live? Do orchards pay \$500 to \$1000 *net* per acre in your district? Do apples bring over \$3.00 per bushel in your market?

*Write us for  
illustrated literature.  
Ask us questions*



No danger of over production. The apple crop has *decreased* from 74,000,000 barrels in 1896 to 24,000,000 last year. America's population has proportionately increased. The supply of fine fruit will never meet the demand. *Buy your orchard now.* If you can't become an orchardist, buy uncleared land and let it make money for you.

*All the world  
seems young  
in Hood River*

A PAIR OF HOOD RIVER TWO-YEAR-OLDS

## MacRae & Angus

*Owners, Subdividers and Developers of Hood River Orchards*

432 Chamber of Commerce PORTLAND, OREGON

Angus Farm HOOD RIVER, OREGON